

Delivering Client Projects from Concept to Completion with a Hyperconverged Data Center



EXECUTIVE SUMMARY

Challenge

Enable the company to add new services with storage-intensive demands while minimizing investment and infrastructure management

Solution

- Brocade VDX Switches
- Brocade ICX Switches
- Brocade Network Advisor
- Scale Computing HC3 virtualization platform

Results

- Met demands of business growth without overhauling infrastructure
- Achieved superior storage network performance and reliability to keep projects moving forward
- Accelerated performance of compute-intensive, complex engineering applications
- Enables two staff to seamlessly support 280 employees and six locations for all IT requirements

The Thrasher Group

The Thrasher Group’s hallmark is delivering seamless, efficient projects—from concept to completion. The company began in 1983, providing engineering service for public utility infrastructure in West Virginia. It was committed to building the business through successful projects and winning repeat business from clients, and today, they have clients that they have worked with for more than 30 years. In addition to providing excellent service, the company is ultimately fueled by the excitement of working on projects that make communities a better place to live.

Although it began with utility projects, Thrasher soon added survey, construction monitoring, and inspection services to support them. Over time, market needs expanded and Thrasher began doing site development work and design services for transportation projects, as well as architectural and landscape design. The company’s geographic service area also grew, expanding from West Virginia to the entire Mid-Atlantic region. Thrasher’s goal is to be a “one-stop shop” for its clients. It can take projects from concept through completion, providing clients with a full range of services, from survey data through construction and material testing. However, with each stage of growth, more technical capabilities are needed.

It Started With Storage

Engineering demands a lot from a network. Surveys, base mapping, CAD files, Building Information Management (BIM) solutions, Geographic Information System (GIS) data, renderings, and video files all require a sturdy storage environment. When Brad Fortney, the IT Manager at The Thrasher Group, arrived in 2010, he quickly recognized that the storage environment wasn’t keeping pace with demand.



"Just as Thrasher aims to deliver a seamless experience for its clients, it wants to provide that seamlessness to its engineers, consultants, staff, and specialty teams," said Fortney. "We wanted to deliver fast, easy access to the data and applications they need."

He initially chose storage from Scale Computing for the production environment and purchased more systems in 2012 for a disaster recovery site. When he saw that he could run his virtual machines and hypervisors on a hyperconverged storage platform, he was hooked. Thrasher's philosophy is to give clients a great project at a reasonable rate, and Fortney extended that same philosophy to the IT infrastructure.

"We could consolidate functions and avoid multiple additional licenses and costs," he said. "We migrated everything to the Scale Computing HC3 hyperconverged platform for both the production and DR environments."

Fast-forward to 2016, and Thrasher has new storage demands. Aerial and drone mapping are used in data survey projects, and they generate huge video files for use in marketing presentations, mapping, and project design and implementation. When video is added to already-large CAD files, it places even more demand on the infrastructure. Thrasher began building a new data center to support growth into the future, which meant that Fortney needed more storage and a new switching network.

Fortney wanted to simplify everything as much as possible and to do so, he intended to build on his hyperconverged platform and refresh the network to support exponential growth without having to replace everything. He compared network switch capabilities, maintenance, support, and ownership costs between multiple vendors, and in the end, he chose Brocade® switches.

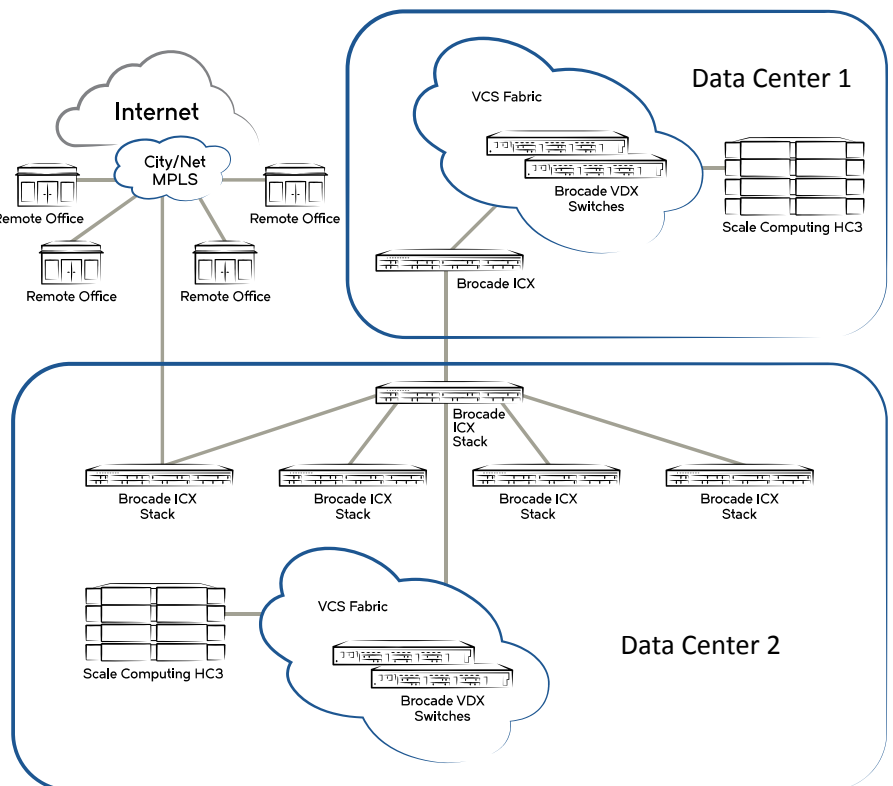


Figure 1. The Thrasher Group's Brocade network and Scale Computing hyperconverged environment.

"Brocade's performance, acquisition cost, and long-term support capabilities just eclipsed those of other vendors," said Fortney. "As a result, we could support our existing Scale Computing infrastructure and implement our vision with better performance and lower costs."

Connecting With an Equally Powerful Network

Both data center and DR sites are built on Scale Computing's hyperconverged infrastructures and support more than 100 terabytes of data, as well as all of Thrasher's functions, including email, accounting, printing, CAD, and telephony. Data is replicated in real time, and the production data center fails over to the DR site with the click of a button.

Thrasher deployed Brocade VDX® Switches in both sites to provide networking between the hyperconverged Scale HC3 platforms. Each Brocade VDX Switch supports a primary and secondary LAN for resiliency in the event of a switch failure.

Stacked Brocade ICX® Switches perform core switching between the primary and DR site, and route traffic to Thrasher's remote offices and the Internet over a metro Multiprotocol Label Switching (MPLS) network. The Brocade ICX Switches carry data and telephony traffic.

A Seamless Service

"I had never before taken an environment that I knew everything about and put it on Brocade switching," said Fortney. "I was happy before, but I was extremely happy when I saw the performance. The only difference was that it was going through Brocade switching."

Fortney reports superior performance for the Scale Computing hyperconverged environment. Brocade switches and the Scale HC3 platform perform flawlessly together day in and day out with "no alerts for weeks." All of the office locations also are on the Brocade network and everyone is pleased about the improved performance. The Brocade network

significantly accelerated application performance for engineers. It used to take 30–40 seconds to load a large CAD file, and now it takes less than 10 seconds.

“It’s performing great,” said Fortney. “When I asked users how things were going, they said ‘this is awesome, this is fast.’ The engineers love it.”

WHY BROCADE

“Thrasher’s goal is to be a one-stop shop for clients. When clients ask for a new service, we want to respond quickly. That’s why we need agile, scalable IT solutions, which the Brocade and Scale Computing products have given us.”

— Brad Fortney, IT Manager, The Thrasher Group

Converging the IT Team

The Thrasher IT team consists of Fortney and one employee working the help desk to support all of the IT requirements for 280 employees, but that’s all they need. Using Brocade Network Advisor, Fortney has an end-to-end view of everything, including the state of the network’s health. He can just look through his Web browser to know if anything needs attention.

“We can manage this infrastructure because it doesn’t need care and feeding every day,” said Fortney. “Thanks to Brocade and Scale Computing, I can keep my staff small because I don’t need someone dedicated to routing switching infrastructure. It takes minutes instead of hours.”

Fortney says that other IT professionals can hardly believe that his infrastructure is both so powerful and so easy to manage, but he reassures them that it is. It’s easy to create a new storage node, migrate data to it, and have granular visibility. He doesn’t have to go through multiple steps to add a virtual machine—the hyperconverged infrastructure automates a lot of the decision-making and manual steps.

“I bring up Brocade Network Advisor and just grin,” he says. “I have green bars across everything. If I need to balance traffic between the Brocade VDX Switches in the production network, I can do it in seconds. Even after three years, I haven’t had to touch the Brocade VDX Switches at the DR site.”

Outstanding Support for the Journey

Thrasher’s clients can expect support through the journey of a project to its success and for Fortney, it’s nice to be the client for a change. He says that the Brocade switches’ reliability, ability to flow data, and automatic rebuilding of network paths has enabled a completely seamless environment—even if a storage hard drive fails. If a drive fails, Fortney takes the information e-mailed to him from the storage system itself, pastes it into a ticket on the Scale Computing website, and receives a confirmation. The next day, a new hard drive arrives. He removes the old one, inserts the new one and the entire storage network functioned as if nothing was happening. There was no impact to users whatsoever.

“No one called or complained,” said Fortney. “If I hadn’t the graphic management interface, I wouldn’t have known it. From that point, I knew that I would stick with Brocade and Scale Computing because they work, and even if they break, they still work.”

Increased Management Confidence

The graphical interfaces for Brocade and Scale Computing also allow Fortney to demonstrate to the company’s management exactly what their investment is doing. The partners can easily understand how the infrastructure is functioning and the problems that it solves, and as a result, they have high confidence in Fortney and the decisions of its IT team.

Next Steps

Fortney is always aiming to stay in front of Thrasher’s needs, just as the company aims to stay in front of its clients’ needs. Being able to respond to market pressures and changes without having to completely overhaul the infrastructure is key. Brocade and Scale Computing have made it easy for him to respond on the fly—moving equipment, adding memory, or adding CPU power without adding staff or equipment.

“Thrasher’s goal is to be a one-stop shop for clients,” said Fortney. “When clients ask for a new service, we want to respond quickly. That’s why we need agile, scalable IT solutions, which the Brocade and Scale Computing products have given us.”

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