



SunPower Corp.



CONVERGED NETWORK

Brocade Reduces Costs While Boosting Functionality at SunPower

EXECUTIVE SUMMARY

Challenge

Decrease network complexity and costs in a high-growth data center with environmentally focused operations

Solution

- Brocade VDX 6720 Data Center Switch

Results

- Achieved immediate ROI upon purchase through a capital cost savings of 50 percent
- Simplified the network infrastructure while reducing management time from hours to minutes
- Reduced power consumption, decreasing operational costs
- Aligned the network infrastructure with the company's environmentally friendly mission

Natural sources of energy are critical to our future—and a hot issue with politicians and consumers. Founded in April 1985, SunPower Corp. is a Silicon Valley-based manufacturer of high-efficiency solar cells, solar panels, and solar systems.

Today, SunPower is the number one solar provider in the U.S. residential and commercial markets, and has a portfolio of utility customers that includes Pacific Gas and Electric in Northern California, Xcel Energy in Colorado, Exelon in Chicago, and Florida Power & Light. In addition, SunPower has a global presence with offices in North America, Europe, Australia, Africa, and Asia.

THE LIGHT BULB GOES OFF

Facing rapid growth—the company went from \$78.6 million and 788 employees in 2005 to \$2.3 billion and approximately 5150 employees in 2011—SunPower wanted to increase the flexibility and scalability of its network infrastructure to support its expansion.

“When SunPower decided to build a primary data center in a new co-located facility in Sacramento, we realized that we needed a network environment that could easily scale with our business—which can shift from no growth to immense growth in a short period of time,” says Zeke Rutman-Allen, Global Network Services Manager at SunPower Corp.

The company compared networking products from Brocade, Cisco, and Juniper, ultimately realizing that Brocade® VDX® 6720 Data Center Switches were the optimum choice. SunPower was looking for a solution that would deliver line-rate 10 Gigabit Ethernet (GbE), low latency, and reduced power consumption. It also wanted to escape the complications inherent in traditional data center environments, such as inefficient and unreliable Spanning Tree Protocol (STP), which can cause network downtime, especially in highly virtualized server environments.

“The Brocade VDX 6720 and Brocade VCS Fabric technology would enable us to create a flatter network architecture, which made incredible business sense,” says Rutman-Allen. “We chose Brocade from a cost and functionality perspective. It allowed us to simplify our network infrastructure, improve uptime, reduce power consumption, and better utilize IT staff time by automating manual tasks.”

SunPower deployed four Brocade VDX 6720 Data Center Switches in an Ethernet fabric supporting servers in a highly virtualized environment. “The Brocade VDX switch and Brocade VCS Fabric technology fit our requirements in a way that no other company’s solution could,” Rutman-Allen says.

POWERING UP A NEW DATA CENTER

The new data center, powered by Brocade, has given SunPower all the features and functionality it was looking for, starting with non-stop networking. “The Brocade VDX 6720 provides an elegant solution to work around single points of failure that existed in the legacy architecture,” says Rutman-Allen. “It allows IT staff to create all active links at the access layer, without any of the traditional time-consuming Layer 2 features. This could not be created in other ways without extensive engineering.”

From day one, Brocade solutions have proved their cost-effectiveness. The total capital costs for the Brocade VDX switches were approximately 50 percent lower than other proposed solutions, giving SunPower an immediate return on investment upon purchase of the products. In addition to the immediate ROI, SunPower is reaping cost benefits based on the simplicity of the Brocade VCS® Fabric design—including reduced power consumption and the need for less equipment to support its growing employee base.

VCS Fabric technology, an integral part of Brocade VDX 6720 Data Center Switches, has given SunPower a more flexible data center architecture and unmatched simplicity. “Servers and storage are now deployed rule-free,” says Rutman-Allen. “It allows us to deploy Brocade VDX switches anywhere and have them automatically brought into the fabric. We can also extend the access layer footprint to wherever it’s needed, making it easier to connect new data center elements back to the core.”

The IT staff also appreciates the Brocade VDX switches and VCS Fabric technology, as they are spending much less time configuring new servers and storage into the Ethernet fabric network. “Adding new components to the network now takes approximately five minutes versus the one hour needed in our old three-tier network architecture,” says Rutman-Allen.

WHY BROCADE

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— Zeke Rutman-Allen, Global Network Services Manager at SunPower Corp.

SHINING A LIGHT ON A GREEN NETWORK

SunPower will likely reap additional cost savings when it deploys Brocade Network Advisor, which will provide end-to-end visibility across the entire network infrastructure. Adding new components to the network will be an automated process, which will help further reduce configuration times and costs for the company.

Looking ahead, the company plans to upgrade data centers in Europe and Asia with Brocade VDX Data Center Switches. “Brocade solutions support our business initiatives and our mission to be a leader in green power,” says Rutman-Allen. “Having Brocade in our network is a huge advantage for us.”

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