

Threshold Enterprises, one of California's largest manufacturers and distributors of nutritional supplements and other natural products, applies its view on long-term health to its IT infrastructure. The company makes long-term investments in advanced equipment and applications to improve productivity and provide high-quality service to thousands of retailers. Its latest investment is in all-flash arrays from Pure Storage, which have dramatically improved response times for business-critical applications, as well as laid a foundation to successfully support strategic IT initiatives for the future.

**BUSINESS TRANSFORMATION**

Employee users of critical ERP applications companywide experience dramatically faster response times for database queries, boosting productivity and improving supply chain efficiency.

GEO

North America

INDUSTRY

Healthcare

“Pure Storage met our ERP challenge handily and still has plenty of horsepower for other solutions.”

Charlie Muller, *IT Director*

PURE STORAGE EXTENDS LONGEVITY OF THRESHOLD ENTERPRISES' IT INFRASTRUCTURE

For more than 35 years, Threshold Enterprises has been a leader in the flourishing field of natural health care products, distributing more than 15,000 products to over 6,000 retailers nationwide. Its commitment to improving people's health is what attracted IT Director Charlie Muller to the company nine years ago from a position at a major health-care provider.

“I am passionate about IT, but it has to have meaning and context for me personally,” he said. “It's really fulfilling to be at Threshold and to bring some of the practices and techniques from a larger corporate environment.”

One of those practices is a long-range strategic perspective on how IT can benefit an enterprise in the most effective and efficient way. Having spent the first few years of his tenure upgrading Threshold's enterprise resource planning (ERP) systems, he more recently has turned to a major overhaul of the underlying IT infrastructure, with the goal of “improving stability, performance and availability.”

A key element in that overhaul is the installation of FlashArray™ arrays from Pure Storage.

CRITICAL APPLICATIONS DEMAND BETTER STORAGE PERFORMANCE

Threshold operates three data centers — at its headquarters in Scotts Valley, California, and at distribution centers on the East and West coasts. The heart of the company's IT operation is its Microsoft Dynamics ERP system, which handles millions of transactions a month. With the company growing 10-20% a year, storage demands have grown at a similar pace. The ERP system now draws on a storage base of some 900GB, up from 200GB just four years ago.

For years, that data resided on a spinning-disk storage area network that Muller said provided “medium performance.” Eventually, that proved inadequate to meet the company's growing demands. “Over time, as we focused on infrastructure and performance, we found that the biggest issue wasn't IOPS but latency,” Muller recalled. “We were seeing very high latency on the SQL engine. So we had to look for ways to improve performance, because SQL goes to the heart of our ERP system and data warehouses. Every millisecond counts.”

COMPANY:

Threshold Enterprises
www.thresholdenterprises.com

USE CASE:

- Database – Microsoft® SQL Server, Microsoft Dynamics, VMware®

CHALLENGES:

- High latency levels dragged down performance on critical ERP applications.
- Storage was lagging behind in the company's pursuit of long-term infrastructure improvements.

IT TRANSFORMATION:

- Latencies cut by 95%, greatly improving response times for end-users.
- 5:1 data compression frees up capacity to host new applications, database replication.
- Stable, high-performance storage infrastructure accelerates execution of long-term IT strategies.

“They really have the customer experience right.”

Charlie Muller, *IT Director*

Latencies of up to 80 to 100ms were negatively impacting the productivity of end-users throughout the company. “The way we were architected, we saw a lot of SQL blocking, and when transactions are blocked, users are queued up waiting for access to data.”

Muller explained that everything in his IT infrastructure has to enable the company to operate 24/7. “Two or three years ago, we weren't there. We had issues with multiple RAID failures on multiple nodes. That's not supposed to happen, but it did.”

Muller consulted with his value-added reseller, Cornerstone Technologies, to learn more about flash storage and the various options. “We already had some experience with flash, after installing a hybrid storage system to relieve our legacy system,” Muller noted. When Cornerstone recommended Pure Storage, Muller initially was hesitant.

“At first, we thought Pure Storage might be overkill for what we needed in order to improve performance of the ERP system. But the more we learned, the faster we realized it was not just a point solution for a particular server, but an infrastructure capable of solving many other problems.

“Our recommendation to the CEO was a solution with a higher initial cost compared to point solutions,” Muller continued, “but we presented it as enabling the company with a whole new infrastructure capable of delivering long-term benefits. As a forward-looking executive who sees the big picture, he approved our decision to go with Pure Storage.

HIGHER PERFORMANCE TODAY, LONG-TERM STABILITY IN THE FUTURE

The impact of installing Pure Storage was immediate. “The amount of SQL blocking was drastically reduced, and the overall user experience was improved — from things stalling or pausing to uninterrupted transactions.” Latencies dropped from 80-100ms down to 1-5ms. “On every measure we had in place where interaction with the SQL engine was critical, we found significant improvements in the responsiveness of the system,” Muller reported.

Improvement was most evident, he added, in invoicing. “The time it took to generate an invoice used to be a real bottleneck before we installed Pure Storage. Now, that problem has gone away.” In addition, the number and duration of blocked SQL transactions have been cut by more than one-third.

As impressive as day-to-day performance improvements have been, Muller is primarily focused on the long-term impacts of installing Pure Storage, which, he explained, fall into three categories.

First, Pure Storage provides enough capacity to not only meet current needs, but also accommodate future growth of the business and additional IT initiatives. “Pure met our ERP challenge handily and still has plenty of horsepower for other solutions.”

One example is the forthcoming rollout of a business intelligence system that will give Threshold executives quick access to a wide variety of metrics about company performance. In addition, a management request to create a development and training system on a scale equal to the production ERP environment was easily accomplished with the installation of a second FlashArray.

Second, Pure Storage offers long-term expansion possibilities that will scale with the company's business instead of the vendor's desires. “It's an easy platform to expand,” Muller noted. “We've already completed one expansion this year that was completely non-intrusive. We hardly even noticed it happened, it was so easy. And that's exactly what we want to have — systems that have long lifecycles.”

Third, Pure Storage provides a stable environment over a much longer period than most technologies. “The design of the Pure system — unlike our previous storage — does not have an expiration date. In the past, you knew that every four or five years you would have to go through a painful migration from one SAN to another. That’s one of the things we have avoided with Pure; there is no end-of-life for the system. It’s designed to be a perpetual system, and that’s the way we like it.”

SIMPLIFIED MANAGEMENT FREES UP STAFF FOR HIGHER PRIORITY TASKS

Having dealt with the demands of spinning-disk storage systems for years, Muller enjoys the freedom Pure Storage provides to concentrate on more important priorities. “Every now and then I will go and watch the performance measurements of the Pure system, and it’s just purring away at the performance level we expect to service the business.

“Pure Storage takes care of itself,” he added. “It’s a very easy system to administer and own.”

Pure’s combination of performance, reliability and long-term stability matches Muller’s philosophy of making long-range investments. “Having a long-term perspective on infrastructure is a matter of reducing risk and of providing a stable operational environment for the business to rely on. The longer you have these systems, the better you are at understanding and managing them.”

While praising Pure Storage for the performance improvements it has brought, Muller said that “over time, what you really appreciate is the quality of support they provide. They really have the customer experience right.”

Recalling his request to the CEO to approve the purchase of Pure Storage, “It’s highly cost-effective when you consider what it gives us over the long haul.”

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Charlie Muller, *IT Director*



info@purestorage.com
www.purestorage.com/customers