

**Room & Board's** ability to deliver on its promises of superior customer service, design advice, product availability and prompt delivery depends on the optimal efficiency of its IT systems. Given its rapid growth and increasing demands on application performance, the company's legacy spinning-disk storage system struggled to keep pace, threatening to disrupt operations. Since installing an all-flash array from Pure Storage, Room & Board has eliminated storage bottlenecks, boosted its application performance, streamlined IT processes, and elevated companywide productivity.



**BUSINESS TRANSFORMATION**

Sales reporting, financial analysis, delivery planning and other key applications execute without interruption, ensuring more efficient business operations throughout the company, while the IT department achieves greater productivity with the same headcount and budget.

**GEO**

North America

**INDUSTRY**

Retail

“There’s no reason to have a storage administrator. Pure Storage just does it all for you.”

Shawn O'Brien, *Director of IT*

**PURE STORAGE FURNISHES ROOM & BOARD WITH ARRAYS THAT DELIVER A BUSINESS OPERATIONS MAKEOVER**

Since 1980, Room & Board has focused on the simple idea that good design should be beautiful, affordable and long-lasting. It works closely with American artisans to design modern furniture and accessories, and more than 90 percent of its products are made in the U.S. It operates 14 stores nationwide, and its website handles a growing percentage of total sales. The company's commitment to high quality extends to its IT department, whose mission is to keep operations throughout the company functioning at peak performance.

The success of that mission was threatened a couple years ago, as the company's growth placed increasing demands on its IT systems. One component in particular that suffered performance problems was the company's spinning-disk storage system.

In mid-2014, the IT staff was working overtime to keep the company's critical SAP applications functioning on the spinning-disk system. “They were constantly seeing bottlenecks and slowdowns because of the inability of the spinning-disk arrays to support the IOPS load,” said Shawn O'Brien, Director of Infrastructure and Architecture. “We needed something that was much faster to handle the considerable workload.”

The company relies on SAP to run virtually every critical business function, including retail point-of-sale systems, invoicing, order management, sales reporting and delivery scheduling. The main data center in Minneapolis is complemented by a second data center that supports the company's website. The two centers share a common store of data approaching 90 TB.

**HEAD-TO-HEAD COMPETITION PRODUCES A CLEAR WINNER — PURE STORAGE**

The IT staff, in collaboration with IT services provider Insight, had started exploring a move to flash storage. Having narrowed the options to two suppliers, one of them Pure Storage, the team decided to conduct a thorough, like-to-like comparison. Systems from both suppliers were installed with identical data and application workloads. To emulate real-world operations, O'Brien said, “we introduced some failure scenarios. We pulled drives, dropped controllers, reinserted drives — all while running simulated full production workloads.”

The result was startling to the Room & Board team. “When you looked at printed performance reports, it was obvious what happened with the competing product,”

**COMPANY:**

Room & Board  
[www.roomandboard.com](http://www.roomandboard.com)

**USE CASE:**

- Application Virtualization – Citrix® XenApp®
- Database – Microsoft® SQL Server, Oracle®
- ERP – SAP®

**CHALLENGES:**

- Legacy spinning-disk storage struggled to keep up with application demands.
- Routine SAP queries dragged down performance for end-users throughout the company.
- Critical analytic reports could only run when IT systems had capacity.

**IT TRANSFORMATION:**

- Nightly scheduling application now takes less than 2 hours to run vs. 5-7 hours.
- Key sales reports that used to take 1 hour each now completed in less than 2 minutes.
- Citrix log-in times for hundreds of users reduced from 38 seconds to 14 seconds.

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Ian Hillier, *Senior Systems Engineer*

O’Brien noted. “It took them 45 minutes to recover to 70-80% of capacity, and in fact they never completely recovered at all. With Pure Storage, there was the briefest of impacts, maybe a second.”

“There was one chart where you had to draw a circle to show where we pulled the drive on the Pure Storage array, because you couldn’t tell that anything had happened. Pure continued to perform without missing a beat. Needless to say,” O’Brien concluded, “we bought Pure flash arrays.”

“Room and Board is a great example of how today’s progressive companies leverage IT to improve the customer experience, increase productivity, and streamline business operations,” said Tim Rasmussen, Regional Vice President of Insight. “Pure Storage all-flash arrays were best suited for Room & Board’s high performance SAP-based workload requirements. We had no hesitation recommending Pure Storage for this environment. The results speak for themselves.”

**MORE AND MORE LOADS HEAPED ON PURE STORAGE**

Room & Board’s initial plan for the Pure FlashArray was to support only its SAP loads, the source of the performance bottlenecks. “SAP was taking up all of the spinning-disk IOPS,” O’Brien said. “If someone started a big report on SAP, everything in Citrix would come to a halt. It had an end-to-end impact on users throughout the company.”

In assessing possible causes of performance problems, he recalled, “we always suspected IOPS was the problem. But the lion’s share of the issues were gone the second we got off spinning disk and onto Pure Storage with consistent sub-millisecond latency.”

When the IT team saw how quickly the SAP performance problems went away, they decided to test the Pure Storage system with more applications, cautiously adding new loads every few days — Citrix XenApp, Microsoft Exchange, SQL Server, SharePoint and more. “We just kept throwing more at it, and it ingested it without a hiccup. It was just remarkable.”

Within 40 days of putting its first SAP load onto the Pure Storage array, all of the company’s production applications and data were migrated onto Pure.

**REMARKABLE PERFORMANCE WITH PLENTY OF ROOM TO SPARE**

The impact of Pure Storage on the company’s IT processes was immediate. “It used to be if someone wanted to run a big report in SAP, they’d have to schedule it so it wouldn’t slow the system,” O’Brien recalled. “They might have to even wait until the next day for it. But now, we’re not concerned. We tell everyone to go ahead and run their jobs, no matter how big. We’ve got the ability to handle it.”

One example of dramatically improved performance is a delivery-scheduling application that runs overnight, and must be completed before trucks roll in the morning. It used to take 5-7 hours, and any delay in its completion would have a huge impact on deliveries the next day. With Pure Storage installed, it now takes under two hours.

Another key application is the creation of four daily sales reports drawn from SAP, each of which used to take an hour to run. They now are completed in less than two minutes, a savings of more than 95%.

Room & Board’s application infrastructure is 85% virtualized, running some 400 Citrix XenApp sessions concurrently. Since Pure Storage was installed, log-in times for those virtual applications has dropped from 38 seconds to 14 — a reduction of more than 60%.

“All of these performance numbers are remarkable in themselves,” O’Brien observed, “until you look at the performance graph of the Pure Storage array and you see that we’re not even consuming 10,000 IOPS, whereas it’s rated at around 150,000.”

“It responds so well. It doesn’t go into queues; it doesn’t wait for things to respond. You don’t have the massive spikes and the wait times that we came to expect from spinning disk.”

### TALK ABOUT COMPRESSION!

The IT team knew that de-duping and compression features in Pure Storage would result in data reduction, but their expectations “were exceeded by far” once the Pure array was installed. “We were thinking we’d be happy with 4:1 or 5:1,” O’Brien said, “but we’re seeing 16:1 total reduction when you consider overallocation, deduplication and compression.”

What this means, O’Brien noted, “is that we have a storage environment where we don’t have to scale out and constantly buy new capacity. It’s especially beneficial in software development, where you have multiple projects consisting of data that is mostly the same. Having to store that data used to be really costly. But with the data compression rates of Pure Storage, that’s not a concern.”

### PURE IS READY FOR WHATEVER COMES NEXT

O’Brien also appreciates Pure Storage for giving him the confidence to move ahead with new initiatives. “Real-time data analytics is key for Room & Board, so we are planning a move to SAP HANA. One of the reasons we wanted new arrays is that we will need something with high performance and the ability to scale with SAP HANA. Pure will do that with ease.”

Room & Board also is establishing a third data center that will utilize another Pure Storage array to serve as disaster recovery target for the two current centers. Pure Storage native replication features will be “a major consideration” in implementing this change. “To replicate de-duped data, at 5:1 ratios or better, means days’ worth of replication time will be saved.”

Ease of administration also has proved a major benefit from Pure Storage. The IT team “doesn’t have to do anything for the Pure environment,” O’Brien noted. “There’s no reason to have a storage administrator. Pure Storage just does it all for you.”

Because storage administration is so streamlined — along with factors like reduced rack space, power costs, and the no-forklift-upgrade Pure Storage Evergreen Storage program — means O’Brien has achieved a lower long-term operating budget for storage. “The multiple dimensions of ROI from Pure easily justify our purchase decision,” said O’Brien.

“I had to rewrap my mind around what it means to manage storage,” said Ian Hillier, Senior Systems Engineer. “Pure Storage gives you a little wallet-size card that tells you how to manage their system. I thought it was a gimmick; but no, it’s real. There’s just so little you need to know when administering the system.”

“We tell everyone to go ahead and run your big job. We’ve got the ability to handle it.”

Shawn O’Brien, *Director of IT*



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