

**Waitrose**, a major retail chain in the UK, directly drives order fulfillment with an in-house demand forecasting application. With the Pure Storage FlashArrays, Waitrose doesn't have to over-spec on capacity, which means it has much more useable storage space. The demand forecast application is now running on much more efficient hardware, and able to leverage the amount of capacity Waitrose wants to dedicate. The Pure Storage FlashArrays also allowed Waitrose to reduce the size of its datacentre footprint by 75%. There's more rack space to take advantage of, and it needs less power to run.

# Waitrose

## BUSINESS TRANSFORMATION

Waitrose uses all-flash storage to run a crucial demand forecasting application, which actively impacts the supermarket business' supply chain and order fulfillment.

## GEO

United Kingdom

## INDUSTRY

Retail

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Aaron Denton,  
Infrastructure Development Manager

## WAITROSE NEEDS FLASH STORAGE TO RUN CRUCIAL DEMAND FORECAST APPLICATION

Waitrose is a major retail chain in the UK supermarket space with 346 stores, employing 60,000 employees. It's the food retail division of Britain's largest employee-owned retailer, the John Lewis Partnership, which also has a chain of popular department stores.

Great customer service is crucial to the Waitrose experience. Business drivers such as increasing profit and market share are aligned to successfully delivering great service. Waitrose has an IT infrastructure function designed to develop its technology capability. Part of its responsibility is to look at where technology is going, and drive ways in which Waitrose can take advantage of technology in the future.

With on-premise cloud and converged systems, Waitrose's central datacentre infrastructure and distributed infrastructure are key to everything it does when it comes to servicing customers. This includes the sales system, e-commerce, and supply chain.

"One of the applications we're running is an in-house demand forecasting application, using a SAS® database," said Denton. "It tracks various sets of data — for example, it can look at weather plans over the last few years, sales, dates, events, and with this information predict what stores will require to sell to customers. This directly drives our order fulfillment, and actively impacts what we send to stores."

To run this, Waitrose needs to run a heavy AIX operating system. For around two years, it used an IBM V7000 storage system to run the application, but 80TB of data was unused out of 100TB of storage. This was due to IOPS requirements, which forced Waitrose to over-spec on capacity.

"This was the limitation of putting the application on a spinning disk array," said Denton. "So the decision was made to look at flash as an alternative, due to its emergence as a storage option at a reasonable price point."

Denton added, "It was the only way we could hit our IOPS requirement without having to scale out with spinning disks. Cloud storage wasn't going to achieve the specifications we required — it had to be in-house. Also, we didn't want to have spare capacity that we couldn't use."

**COMPANY:**

Waitrose  
[www.waitrose.com](http://www.waitrose.com)

**USE CASE:**

- Database – SAS®,  
In-house applications

**CHALLENGES:**

- Running an in-house demand forecasting application to track data and drive order fulfillment.
- Inefficient capacity usage with IBM V7000 storage system, with 80TB of unused space.
- Incumbent disk array only met IOPS requirement through capacity over-specification (by 400%).

**IT TRANSFORMATION:**

- Increased overall flash storage performance matches IOPS requirements.
- Achieved three to one compression ratio on non-production data, and just under three to one data ratio with production data.
- Reduced datacentre footprint size by 75%.

“We’re very impressed by Pure Storage. We’re considering buying more storage both in the short and long term. We’re excited by what the company can bring.”

Aaron Denton,  
*Infrastructure Development Manager*

**WAITROSE CHOOSES FLASH FROM PURE STORAGE OVER EMC AND HPE**

Pure Storage was recommended by a member of Waitrose’s supply management team, who had a good experience with the company at a previous employer. Waitrose did a proof of concept with Pure Storage FlashArray and two other flash storage options — HPE 3PAR All Flash and the EMC XtremIO.

Waitrose looked closely at the price per GB of storage, as well as cost of ownership and maintenance — for example, how much time engineers were going to spend on activities like upgrading, fault investigating and provisioning, as well as upgradeability and lifetime usability. In the end, Waitrose went for Pure Storage.

Denton said, “Pure Storage offered the lowest cost per GB of the three, and the Forever Flash and Evergreen Storage model was very attractive. But, it was the service offered by Pure that was the determining factor. Pure Storage is very engaging and helpful — the team members were willing to go that extra mile to help and support us, even before a decision was made.”

Waitrose now uses two //m50 Pure Storage FlashArrays, which support IBM’s POWER8 system as the foundation for the AIX OS and SAS database. Installation was very quick (within the day).

**BETTER SPEED AND PERFORMANCE, THE START OF A LONG-TERM RELATIONSHIP**

Waitrose is benefitting from several improvements since installing Pure Storage, including increased speed (in terms of IOPS) and overall improved storage performance. Denton said that the team now has a three-to-one compression ratio on non-production data, and just under a three-to-one production data ratio with the proprietary SAS database.

With the Pure Storage FlashArrays, Waitrose doesn’t have to over-spec on capacity, which means it has much more useable storage space. This has allowed Oracle to move workloads to the free available storage. The demand forecast application is now running on much more efficient hardware, able to leverage the amount of capacity Waitrose wants to dedicate.

The Pure Storage FlashArrays also allowed Waitrose to reduce the size of its datacentre footprint by 75%. There’s more rack space to take advantage of, and it needs less power to run.

“Simply put, the storage is very fast and has a small footprint,” said Denton. “It’s simple, removing complexity in day-to-day storage activity. The price and support model is very attractive commercially, and the performance is better than we expected — it’s certainly punching above its weight! It’s kinder to the environment, and allowed us to provide a service we need for a cheaper cost, ultimately having a positive knock-on effect with the business.”

He added, “We’re still very early on in our journey with Pure Storage, but we’re very impressed by the way they work with us and what they’ve done. We want to build an ongoing relationship — we’re considering buying more storage both in the short and long term.”

Denton concluded, “We’re very impressed by what Pure Storage has shown so far, but equally excited by what the company can bring.”



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