



UNIVERSITY OF
BATH

University of Bath

Overview

Challenge

The university's SAN storage was no longer fit for purpose – maintenance costs were rising and failure rates were increasing. The University of Bath wanted to determine a true best-fit for its storage needs.

Solution

The University of Bath instigated a Proof of Concept that would look at four different vendor technologies. By analysing performance, availability, efficiency, system longevity and cost, the team was confident that Pure Storage was the best option. Now the Pure arrays are successfully underpinning the university's databases.

Benefits

- Straightforward integration into existing systems
- Compression & deduplication capabilities creating significant space savings
- Fast system that can create instant clones of a database
- Easy to manage thanks to Purity operating environment
- Cloud-ready for future projects

Small footprint & big possibilities thanks to game-changing storage solution

Presented with the challenges of an ageing spinning disk storage system, which included escalating maintenance costs and increasing failure rates, the University of Bath instigated a Proof of Concept (PoC) to make sure it found a best-fit storage solution. Wanting to explore the options that were available on the market, and what different platforms had to offer, the university called in Proact to gather together solutions from a range of vendors.

The PoC looked at how these different solutions affected the university's most important requirements, such as performance, high availability, efficiency, system longevity and cost. Further to this, the Proof of Concept provided a great opportunity to discover how different technologies could be used, and how they could affect the systems that run on them.

The SAN storage that the University of Bath wanted to replace was mainly used to run databases. With this functionality in mind, the testing focused on how well the systems could support Oracle, SQL Server, and MySQL databases.

After looking at all the options, and despite having no initial preference at the start of the process, Pure Storage was the clear winner when it came to meeting the university's storage needs.

“The fact that we’ve seen a reduction ratio of almost 7:1 is phenomenal. Because we have two storage systems, the overall solution was sized to provide us with 100TB, mirrored. We’re likely to get double what we thought out of this technology, due to the increase in the anticipated reduction ratio. It will be able to underpin our databases well into the future.”

Paul Jordan,
Corporate Applications and Database Manager
at the University of Bath

The transition

Because the university had already used Pure as part of the PoC, the team found it easy to start using the technology as part of its daily functions. The university also appreciated Pure’s simplicity.

Integration into existing systems was very straightforward. All the university’s Oracle databases, which were running under Solaris, easily migrated across to the new architecture because they used mirrored ZFS file systems. All the team had to do was put mirrors in from the new storage and remove the old ones.

Transitioning the SQL Server databases was a little more complex as they were running under Microsoft Windows. Despite having to bring systems down and then bring them up again on the new storage systems, the work involved was still relatively simple. Our Professional Services consultants assisted with the transition to the new platform and helped to decommission the old system.

Since the PoC could only cover features that Pure Storage had at that time, the University of Bath has enjoyed reaping the latest capabilities. Paul Jordan, Corporate Applications and Database Manager at the University of Bath, says: “Pure Storage continues to evolve its software and moves it on very quickly. Best of all, all these advances come to us as part of our maintenance contract. What we can do now, relative to the features that were available during the PoC, has changed quite radically.”

Initially all the University of Bath planned to do was copy the way it used the old storage system. By doing this, the team knew it could leverage the standard benefits of moving to flash technology, such as significant performance improvements for applications, backups, exports and more. However, because of Pure Storage’s growing capabilities, the university has since transformed the way it works.

Impressive reductions

Since adopting Pure Storage, one of the key advantages the university has noticed is its compression and deduplication capabilities. When using the previous SAN infrastructure, data was taking up between 140 – 160TB. The equivalent amount of data on Pure Storage is using around 25TB.

Jordan adds: “The fact that we’ve seen a reduction ratio of almost 7:1 is phenomenal. Because we have two storage systems, the overall solution was sized to provide us with 100TB, mirrored. We’re likely to get double what we thought out of this technology, due to the increase in the anticipated reduction ratio. It will be able to underpin our databases well into the future.”

It’s not just the compression and deduplication that’s achieving such great reductions at the University of Bath, it’s the generation of ‘clones’. The university often runs multiple database instances that are replicated for the likes of testing and development. The fact that ‘clones’ don’t occupy any space until the data diverges is offering great benefits.

Because the system is fast, it can create instant crash consistent snapshots of a running database. By using Pure Storage’s FlashRecover Snapshots, the University of Bath can create an instant clone of a production database for test or development purposes.

“Everything has been easier because we’ve had a partner we can trust at our side. Proact has always done exactly as it has said and we can’t thank them enough for their work so far. We now have systems that go far beyond our initial expectations and we wouldn’t have reached this point without Proact introducing us to Pure during the PoC stage.”

Simplicity

Purity, the Pure operating environment that the university is using to manage its arrays, is eliminating the need for mirrors. This is because the storage platforms can now perform this function on their own by using ActiveCluster or stretched volumes. This capability has saved some time for Oracle administrators, but administration of Microsoft Windows databases has seen the biggest time savings. Previously, the team faced many complexities because it was using always-on availability groups. There’s now no need for these.

Jordan says: “Pure’s software is generating features that we’ve never had before which is making managing systems so much simpler.”

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Future aspirations

The University of Bath plans to use Pure’s technology to underpin future developments, which will involve a move to the cloud. The university appreciates that the storage arrays are ‘cloud-ready’ and can easily generate backups in the cloud.

“At the moment we’re focusing on performance over cloud. Cloud will happen but for now it has been better for us to keep things on-premise. We will be looking at cloud-based applications and cloud-based storage, but we’re likely to take a hybrid approach,” Jordan adds.

“Hybrid looks to be the way forward as a lot of the applications we use require high performance. It’s good to know that the Pure arrays would work as part of a hybrid strategy and can act as a staging post when cloud migration happens.”

Benefits



True best-fit

PoC tested which technologies could meet the university’s requirements, how they could be used and how they could affect other systems.



Integration

The transition to the new system was straightforward and the university’s databases easily migrated to the new architecture.



Time savings

Purity is eliminating the need for mirrors and always-on availability groups. This is saving time for Oracle and Microsoft Windows database administrators.



Reductions

The university has achieved a reduction ratio of almost 7:1 through compression and deduplication.



Cloud-ready

The Pure arrays can work as part of a hybrid cloud strategy and could act as a staging post when cloud migration happens.



Speed

The system can create instant crash consistent snapshots of a running database which can be used for testing and development.

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About Proact

Proact is Europe’s leading independent data centre and cloud services provider. By delivering flexible, accessible and secure IT solutions and services, we help companies and authorities reduce risk and costs, whilst increasing agility, productivity and efficiency.

We’ve completed over 5,000 successful projects around the world, have more than 3,500 customers and currently manage in excess of 100 petabytes of information in the cloud. We employ over 800 people in 15 countries across Europe and North America. Founded in 1994, our parent company, Proact IT Group AB (publ), was listed on Nasdaq Stockholm in 1999 (under the symbol PACT).

About the University of Bath

The University of Bath received its Royal Charter in 1966 and is now established as a top 10 UK university with a reputation for research and teaching excellence. The university ranks highly in independent league tables for overall performance, student satisfaction and graduate employment.

In total the University of Bath has over 17,000 students enrolled, with over 30% coming from outside the UK, representing 130 nationalities.

The university’s mission is to deliver world-class research and teaching, educating students to become future leaders and innovators, and benefitting the wider population through its research, enterprise and influence.

The University of Bath has a vision to be recognised as an international centre of research and teaching excellence, achieving global impact through its alumni, research and strategic partnerships.