XMA

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Canterbury Cathedral

Migration to Nutanix hyperconverged infrastructure enables university do more with less

Canterbury Christ Church University has been able to consolidate its IT infrastructure into just a single rack in each data centre.

Faced with a budget shortfall to refresh servers and storage, Christ Church University was forced to get creative, but found that a hyperconverged solution did more than just solve its cost conundrum.

" *We've managed to consolidate fourteen entire racks worth of various kinds of blade chassis and storage arrays into just twenty rack units of space. So it's been quite an impressive consolidation piece for us to get into hyperconvergence.*"

– Andy Powell, Head Of Infrastructure, Canterbury Christ Church University

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Canterbury Christ Church University

BENEFITS

- Nutanix infrastructure consolidates multiple racks in each data centre to just two
- Greater performance with lower energy consumption and less cooling required
- Reduced cost and simplified management
- Provides a scalable platform for growth
- Built-in replication and failover support providing increased resilience and availability

SOLUTION

- Nutanix Enterprise Cloud Platform on Lenovo ThinkAgile HX servers
- Acropolis Operating System (AOS), and Distributed Storage Fabric (DSF)
- Prism management
- VMware vSphere hypervisor

CHALLENGE

Canterbury Christ Church University is an educational establishment in Kent, UK, which provides nursing and teacher training in addition to standard degree courses. Its campus typically has about 18,000 students and 1,800 staff, all of which have to be provided with access to applications and services within budget limits.

The university's IT systems were running a mix of workloads, including the finance system, the virtual learning environment and the student record system, plus unstructured file systems and the university's web presence, meaning that the IT systems are critical to the day to day running of the campus.

The university had long ago virtualised its infrastructure in order to consolidate its workloads onto fewer physical servers, and so was already using VMware with HP servers and storage arrays, with asynchronous replication to a second data centre.

However, when the time came for a refresh of the infrastructure, the IT team was not able to secure the entire budget required for new servers as well as storage, so other options had to be considered instead.

SOLUTION

The University IT team decided to ask for quotes for a hyperconverged solution that would meet their requirements through the Servers, Storage and Solutions National Agreement (SSSNA) framework. This was set up to allow universities, higher education and further education colleges to speed the procurement process and reduce costs without having to submit tenders to individual suppliers.

Of the seven suppliers that responded, six proposed a VMware-based solution configured as a Metro Storage Cluster to meet disaster recovery requirements, while the final supplier instead offered a solution based on Nutanix.

That supplier was XMA Ltd, and was able to demonstrate to the university IT team that it could deliver on all of their requirements, despite the Nutanix platform not being an option the team had previously considered.

"It wasn't the first time we'd heard of Nutanix. But we always felt that Nutanix was, for want of a better phrase, too rich for our blood, as there weren't many universities using it in in the UK, and they were mostly using it for research purposes, not for their production workloads," Powell says.

When Powell and his team looked more closely at the Nutanix offering, the more they liked what they were seeing and it became clear that it ticked all the right boxes in terms of capabilities, and XMA were keen to provide all the support that Christ Church University needed.

"Then we started negotiating whether or not we went for Nutanix hardware, or whether we went for an alternate compute layer. And what we actually ended up with is Lenovo servers with eight nodes of Nutanix initially, four in each data centre, running with VMware on top of Nutanix, operating as a metro cluster," he explains.

Powell said that they chose this solution instead of Nutanix hardware because Nutanix was already transitioning to focus on software, leaving the provisioning of node hardware to its supplier partners. The decision to run VMware vSphere on top of the Nutanix platform with its software-defined storage was based on the team at Christ Church University already having invested in VMware and trained up its IT team on it.

" *We've never had a single performance problem with our Nutanix and Lenovo stack,*"

CUSTOMER OUTCOME

Christ Church University has now been able to consolidate all its IT infrastructure into the clusters of Nutanix nodes, simplifying management as the IT team no longer has to manage separate server and storage systems.

"That's worked extremely well for us," says Powell, adding that this migration required just the expansion of their Nutanix deployment to ten nodes, five in each data centre, with more memory in each node.

"We've managed to consolidate fourteen entire racks worth of various kinds of blade chassis and storage arrays running in three different locations, into just twenty rack units of space, ten in each data centre. So it's been quite an impressive consolidation piece for us to get into hyperconvergence," he explains.

This not only saves on space and simplifies management, but has other savings in terms of energy consumption.

"Now, we have two half racks, one in each data centre, so even the power consumption is much reduced. But it's not just about the power for the compute, it takes less air con, it uses less storage, so the whole kind of shooting match just uses fewer resources."

Meanwhile, the built-in replication and failover support in the Nutanix platform has already proven its worth.

"So you can lose a data centre without losing any other services. And that's really kind of key to us. I mean, even just a few weeks ago, we had a power outage, and ninety percent of our users didn't even notice a difference," Powell says.

But does consolidating everything onto a few Nutanix nodes have a negative impact on performance? According to Powell, the opposite is true.

"We've never had a single performance problem with our Nutanix and Lenovo stack," he says. "We've never actually had to worry about performance because it's always outperformed what our minimum baseline is."

NEXT STEPS

Looking to the future, the university is aiming to extend consolidation, and implement a hybrid cloud strategy enabled by its Nutanix infrastructure and Rubrik, a cloud data management and backup service that integrates with the Nutanix platform and provides a link to Microsoft's Azure.

"Moving forward, we're consolidating our data centres, and Nutanix really allows me to consolidate down. I mean, I've got

two data centres, and one is forty racks, of which I'm using just two. We've got a rack swap arrangement with a partner university local to us, and they're now using more rack space than we are in our data centre," says Powell.

"Hopefully, we'll be shutting down one of those data centres with the move to Nutanix and Rubrik and the consolidation will mean that we will do one of two things: either move the Nutanix cluster up into

the University of Kent, which is the partner university, or we'll move into a single data centre, and then look to do something different with the ability to use backup servers in Azure, he adds.

"So that's what the future kind of holds for us - more consolidation, reducing our carbon footprint, reducing our electricity bills and reducing upkeep on a data centre. That's what Nutanix is allowing us to do."