

Dumfries and Galloway Council

Dumfries and Galloway is no stranger to innovation. The region boasts a number of firsts – the first savings bank, the first steamboat, the first submarine and the first pedal cycle - so when the local council's IT department needed an urgent upgrade, it had no hesitation in thinking big.

As one of 32 unitary council areas of Scotland, located in the western Southern Uplands, it covers 2,460 miles and has a population of nearly 150,000. Like all councils in Britain, it is under pressure from Government budgetary cuts so it has to try and do more with less. Quick returns on investment are essential but above all, any new IT solution has to deliver a leap forward in technology capability, for little or no extra cost.

The residents and visitors of Dumfries and Galloway rely on the council to deliver good and efficient public services. In turn, the council relies on its IT infrastructure to help staff deliver these leading services.

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Jonathan Coupland, Principal Server Technician

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Challenge

Based at Monreith House in Dumfries, the council's IT team has to ensure the operation of systems at all times, but with only a small team of three managing storage and compute, they look to technology to help meet their SLA's. It is critical that systems are highly resilient and deliver consistent performance, to ensure data being used by staff for file and print, web services and database applications is available 24/7.

"We were in a situation where our existing IBM storage, which we had for over seven years serving data to our virtual and physical environment, was starting to cause us headaches," recalls Jonathan Coupland, Principal Server Technician at Dumfries and Galloway Council. "Issues included poor performance, regular drive failures and no free capacity due to limitations of expansion trays, but above all support costs were out of control for this ageing hardware. A new storage system was required to alleviate these issues and better serve our resource hungry applications." The IT team was starting to see two drive failures a week, which was running the risk of affecting service delivery. "With budget cuts the council is expected to make, we have to do more with less, including day to day maintenance of our systems," adds Jonathan. "It was obvious a new system would free our team's time to do more than 'babysit' existing ageing hardware." At this stage, it was decided a new storage system would be required and the council released budget for the IT team to upgrade this critical infrastructure. With a business goal of saving money and offering a more reliable service to end users, the council's IT storage team contacted their Account Manager at COOLSPIRiT, introducing the issues and enquiring about suitable options available for the council's virtual and physical estate.



Solution

Dumfries and Galloway had already started researching potential solutions before contacting COOLSPIRiT, but the team was not certain it was making the right choices and taking everything into consideration.

"During our exploratory meetings with COOLSPIRiT we explained that we believed all-flash arrays would be the way forward, but were advised this may not be the case," says Jonathan. "The experts at COOLSPIRiT explained that there were other 'hybrid' technologies available that utilised standard hard disks and flash drives to deliver the same performance but at a lower cost point. At this, we were introduced to Nimble Storage and the CS5000 series array."

It was decided that whichever option was chosen it needed to offer five years' service minimum, so features such as data compression, intelligent use of flash and reactive support became obvious requirements for the council. Also within the project scope was disaster recovery, so secure and efficient replication methods were also very important, due to an imminent new secondary data centre location being approved by the council.

The team at COOLSPIRiT accurately proposed, sized and designed the deployment of two 126TB Nimble CS5000 storage arrays for Dumfries and Galloway's production and DR locations, followed by a proof of concept to test its ability to deliver the storage system for all of the council's critical services.

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"The information provided was very in depth and concise from the team at COOLSPIRiT," adds Jonathan. "This gave us confidence in their experience and ability to deliver the correct solution for us."

After testing the Nimble Storage hardware, it became very clear that it was the right technology for us. Not only do you get all features required in a single price, such as snapshot capabilities, compression and predictive support, but it also delivers the same performance as all-flash arrays at a lower cost."

Jonathan adds that the team also wanted Fibre Channel controllers for the two CS5000 arrays, as they are not used to iSCSI and didn't want to burden the team with extra training. "With Nimble you get the flexibility of connectivity options, minimising the need for training and ensuring the best possible compatibility with existing systems and skills."

Dumfries and Galloway requested the assistance of the COOLSPIRiT professional services team to enable a successful, quick and correctly configured installation as Jonathan explains - "The installation and configuration of the new storage arrays was carried out very professionally. We felt extremely confident with the Nimble technology and the COOLSPIRiT engineer, who had a deep knowledge of critical infrastructure, demonstrating capabilities to understand our requirements both prior and during the install, enabling us to trust in the advice given. Previously we have had issues when being involved in live migrations, but with the Nimble technology and the skills transfer of COOLSPIRiT, this was never an issue."

Together with the COOLSPIRiT advice, design and professional services Dumfries and Galloway Council has successfully implemented the new storage infrastructure, enabling the data assurances required for the next five years.



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Benefit

With the complete service wrap from COOLSPIRiT, Dumfries and Galloway Council now has a data storage infrastructure that is reliable and delivers the performance required.

"Previously with the old system not only were failing drives an issue but we had started to notice performance impact, especially on our finance applications and the associated reports that need to be run from them" explains Jonathan. "The Nimble CASL architecture with its impressive cache mechanism utilising SSD disk has enabled these finance applications to run smoother, and the time to produce reports has been greatly reduced, resulting in happy employees."

The Nimble Storage system has not only delivered better performance for the council's applications but also delivered in other areas. "We now have a reliable storage solution we can trust, and the fact we now have a pair of storage arrays replicating means we have a superior solution than previous in terms of data safety. The new system has also proved a huge benefit when it comes to the process of migration to our new virtual stack - it's much easier to add hosts. The overall time spent configuring and managing the system is minimal compared to the previous stack, so we are realising so many time-saving benefits," confirms Jonathan.

Additionally, the new solution will cater for the growing data requirements of the council, while monitoring the system's health is now much more advanced than previous solutions.

"Since deploying the Nimble Storage arrays and migrating our data to them, we are very impressed with its ability to compress data," adds Jonathan. "The data reduction savings are a real benefit and will offer us the capacity to grow into the future without any additional spend on hardware. Also, Nimble Infosight has massively impressed us. We haven't had this from any manufacturer before, and it's truly unique. The ability to predictively advise us of any issues, either at the array level or throughout the stack is amazing, and helps us fix any potential issues quickly."

By implementing the new solutions, Dumfries and Galloway Council has discovered a measurable financial return. "Not only are we benefiting from financial savings on power and cooling, our storage hardware footprint has been dramatically shrunk from 24U to 4U at each data centre," reveals Jonathan. "We now have new hardware in place with five years support for what it would have cost to renew the previous system support for three years. We have managed to pay the same price as this support renewal, but now have brand new technology from Nimble Storage."

By working with COOLSPIRiT, Dumfries and Galloway Council now has the confidence in its data storage infrastructure to deliver services into the future, whatever the requirement. This will ensure the council keeps on delivering excellent services to the staff, residents and visitors of Dumfries and Galloway despite on-going budgetary pressure.



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