

Denbighshire Council cuts storage costs and increases flexibility



Implementing an IBM Virtualised Disk Solution with help from Celerity

Overview

Business challenge

To meet growing data storage needs, Denbighshire had expanded its existing disk system several times – inflating maintenance costs, increasing power and cooling requirements, and occupying valuable space in the data centre. This expansion model was not sustainable, and the Council needed to find a way to control costs, reclaim data centre space and manage storage more efficiently.

Solution

Celerity, an IBM Premier Business Partner, helped Denbighshire select, design and implement a new storage architecture based on an IBM Virtualised Disk Solution. The new architecture uses IBM System Storage SAN Volume Controller to simplify storage management and increase efficiency.

Denbighshire County Council provides a wide range of local government services for more than 97,000 people in north-east Wales. The Council's headquarters are located in Ruthin, and it has six other main sites at towns across the county, as well as numerous satellite locations serving rural communities. It employs approximately 5,500 people.

The Council's main IT services are mostly hosted at its main data centre in Ruthin. As the demand for online services continues to increase within the local community, Denbighshire's IT team needs to find the most cost-efficient ways to expand its infrastructure to support growing data volumes and performance requirements.

The data storage challenge

"One of the key issues we needed to address was data storage," comments Markeus Woodworth, Principal Technical Support Manager at Denbighshire County Council. "As the demand for storage increased, we had extended our existing storage system by adding disk expansion drawers. Each time we did this, our maintenance and support costs increased. Moreover, the infrastructure was taking up 37 units of rack space and required 30 power supplies. We were running out of room, and the electricity costs were considerable."

Part of the problem was that individual systems had reserved more disk space than they actually needed – wasting existing capacity and forcing the Council to invest in additional disks whenever it wanted to set up a new system. The IT team wanted to find a new solution that would help them reclaim the wasted space and manage storage capacity more efficiently in future.

Significant cost savings

"We asked Celerity, an IBM Premier Business Partner, to perform a full audit of our existing storage landscape and come up with a better, more cost-effective solution," explains Woodworth. "They proposed the IBM Virtualised Disk Solution, which combines IBM hardware and software to deliver a more compact, scalable and easy-to-manage storage architecture at a lower cost than our existing platform."



Business Benefits

- Cuts maintenance costs significantly over three years, providing a more advanced storage solution for a similar total cost of ownership.
 - Consolidates the total number of disks by 69 percent, enabling major savings on power and cooling.
 - Reduces data centre space requirements by consolidating from 11 disk expansion drawers down to three.
 - Uses thin provisioning to recover 3.5 TB of disk space during migration and minimise the cost of scalability for the future.
 - Enables rapid, easy provisioning of new storage via a simple central web console.
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The IBM Virtualised Disk Solution implemented at Denbighshire comprises an IBM System Storage DS5020 Express with three disk drawers that contain a mixture of high-speed Fibre Channel and high-capacity SATA disks. IBM SAN Volume Controller is used to virtualise this disk system and simplify management.

“Our analysis showed that over the next three years, the maintenance for our existing system would cost very nearly as much as the entire purchase price of the IBM Virtualised Disk Solution, which comes with three years’ maintenance included,” says Woodworth. “When we factored in the reductions in power and air-conditioning costs for the new system, and the extra functionality that SAN Volume Controller would provide, it became obvious that the IBM Virtualised Disk Solution offered much better value.”

A successful partnership

Celerity helped the in-house team to install and configure the new solution, and migrate the Council’s data from the existing disk system.

“Celerity did an excellent job on the project management, and their technical skills helped us resolve any issues quickly and efficiently,” says Woodworth. “The success of the project proved that the IBM Virtualised Disk Solution was the right choice for us.

Powerful storage management with SAN Volume Controller

“During the migration we used SAN Volume Controller’s thin provisioning feature to reallocate disk space more efficiently to our existing systems. As a result, we recovered 3.5 TB of storage that had previously been wasted. In the future, thin provisioning will enable us to allocate storage volumes in a more flexible way, so we will only need to purchase additional disks when our systems actually require it.”

IBM SAN Volume Controller also makes the storage landscape much easier to manage, providing a simple web console that allows the underlying infrastructure to be treated as a single ‘pool’ of virtualised storage. When the IT team wants to provision a storage volume for a new server, there is no need to worry about physical disks or RAID configuration, as all the complexity is handled automatically. Moreover, if the Council wants to add another disk system to its network, SAN Volume Controller can seamlessly add it to the existing pool.

Saving space and cutting electricity costs

With the new solution in production, Denbighshire has begun the process of retiring its old storage hardware. When this process is complete, the Council will have consolidated from 11 disk drawers down to three – saving 24 units of rack space, and reducing the number of power supplies from 30 to ten.

Solution Components

Software

- IBM SAN Volume Controller

Servers

- IBM System Storage DS5020 Express

IBM Business Partner

- Celerity
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“Celerity and IBM have delivered an ideal solution to meet our needs. The IBM Virtualised Disk Solution is an ideal platform for local government organisations that need an energy-efficient, easily manageable storage architecture that will meet the needs of growth while delivering excellent value for tax-payers’ money.”

— Markeus Woodworth, Principal Technical Support Manager, Denbighshire County Council

“Data centre electricity is a significant expense, and as a government organisation it’s also important for us to be as environmentally friendly as possible,” says Woodworth. “The total number of disks we need to power and cool has been reduced from 155 to 48, so we’re expecting to see significant reductions in our electricity bill as soon as we’ve finished retiring the old hardware.”

He concludes: “Celerity and IBM have delivered an ideal solution to meet our needs. The IBM Virtualised Disk Solution is an ideal platform for local government organisations that need an energy-efficient, easily manageable storage architecture that will meet the needs of growth while delivering excellent value for tax-payers’ money.”

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