



## Council gives virtualization a vote of confidence

Borough council in the United Kingdom extends e-government services while consolidating IT by around 47 per cent and cutting energy use by more than half with virtualization



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*Martin Stroud, ICT Team Leader, Copeland Borough Council*

### Customer profile



<b>Company</b>	Copeland Borough Council
<b>Industry</b>	Government (local)
<b>Country</b>	United Kingdom
<b>Employees</b>	365
<b>Website</b>	<a href="http://www.copeland.gov.uk">www.copeland.gov.uk</a>

### Business need

To deliver better e-government services and improve collaboration between staff, Copeland Borough Council looked to reduce its server footprint and switch from direct-attached data storage.

### Solution

The council implemented a consolidated server infrastructure based on Dell™ PowerEdge™ blade servers and moved to Dell EqualLogic storage. It also chose Dell ProSupport™ to optimise performance.

### Benefits

- Council consolidates rack servers by around 47 per cent
- IT team cuts power use by more than half
- Staff save around six hours a week in management time
- Customer launches test blade servers in minutes
- Council implements cost-effective storage technology

### Solution areas

- Disaster Recovery
- Networking
- Server Solutions
- Storage Solutions
- Support Services
- System Management
- Virtualization

The borough of Copeland, in the county of Cumbria, covers part of the Western Lake District. It supports around 70,000 residents and is well known for the beauty of its surroundings. But while the landscape may not have changed for millennia, the work of the Copeland Borough Council is quickly evolving, and the council is embracing the transformational power of IT.

The council understands the value of e-government for improving services and lowering costs. It believes that technology and the internet can help councils work faster and smarter, while encouraging residents to engage more deeply with their community. But Copeland's ambitions for e-government and technology were limited by its IT infrastructure. The council had a relatively small data room to locate its servers and storage. It soon became full of servers, preventing further expansion, and the cooling systems were operating at maximum capacity.

With many of the servers at the end of their lifecycles, Copeland saw the opportunity to rethink its IT and create an infrastructure that could support e-government and better services for employees. However, it didn't want to just upgrade the existing solutions. It looked to consolidate its server footprint and move away from direct-attached storage – an area of complexity that consumed a lot of management time. Martin Stroud, ICT Team Leader at Copeland Borough Council, says: "Administration was a major issue. We were constantly replacing disks in our arrays and patching our servers. Plus, whenever someone asked for a new service, it prompted a whole list of questions concerning space and cooling."

#### **Council gains responsive service and simplified solution**

Copeland requested proposals from leading IT solution providers for creating a consolidated infrastructure. Stroud was keen to virtualize servers, and open to suggestions on moving to networked storage. Despite

proposals from EMC, IBM and HP, Stroud chose Dell. Up to this point, the infrastructure had been largely HP, but Dell came back with the simplest solution that offered exactly what Copeland required. Stroud says: "We got a different kind of response from Dell. While everyone else seemed to present us with a long list of everything we needed – much of which I wasn't convinced of – Dell came back with a simple solution and I could see how it would work." He had confidence in

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#### **Technology at work**

##### **Services**

Dell Consulting Services  
– Dell Virtualization Readiness Assessment

Dell Support Services  
– Dell ProSupport™ with Mission Critical

##### **Hardware**

Dell™ PowerEdge™ M600 blade servers with Intel® Xeon® processors E5410

Dell PowerEdge M1000e modular blade enclosure

Dell EqualLogic PS4000E, PS5000E and PS5000XV storage area networks

Dell PowerConnect™ switches

##### **Software**

Dell OpenManage systems management

Windows Server® 2008 R2 – Hyper-V™

Oracle VirtualBox



Dell technology based on the council's experience with Dell™ OptiPlex™ desktops, Dell Latitude™ laptops and Dell Vostro™ laptops. "I knew that Dell solutions were robust and could cope with constant use," he says.

The council also found it easier to make an informed decision about the Dell proposal due to the responsiveness of its support. "Dell quickly provided us with demonstration units to show how the solution would work in practice," says Stroud. "In addition to that, a Dell engineer helped us set up and configure the demonstration units to save time. There was no charge for this, which highlighted Dell's commitment."

#### **IT launches test blade servers in minutes**

Copeland ran tests using Dell blade server technology and Dell EqualLogic storage area networks (SANs). At one point, he compared the time it took to launch a Dell blade server against a comparable HP blade. Stroud says: "It could take me around two hours to set up and configure an HP blade, whereas I got the Dell blade server up and running in 15 minutes. The Dell blade server is much more intuitive and the management tools are easier to work with." The simplicity of the EqualLogic SAN was also noticeable during testing. "We had our Dell EqualLogic SAN out of its box and up and running within a couple of hours. It was child's play for an IT professional," says Stroud.

#### **Virtualization support gives customer added confidence**

With Stroud keen to virtualize the infrastructure, a Dell technical team provided a Dell Virtualization Readiness Assessment (VRA) to help Copeland plan the environment. Stroud chose to virtualize his Microsoft technology with Windows Server® 2008 R2 with Hyper-V™. The VRA supported the Hyper-V installation. He says: "The Dell Virtualization Readiness Assessment was useful because it gave us design specifications for our servers and networking for the SANs. It saved us

time and gave us a lot of confidence knowing that our platform would be based on recommendations from Dell."

#### **Copeland consolidates rack servers by around 47 per cent**

The council has nearly halved its rack server footprint as a result of implementing a virtualized Dell blade server solution. Stroud and his colleagues deployed 12 Dell PowerEdge™ M600 blade servers with Intel® Xeon® processors, which are housed in a single Dell PowerEdge M1000e modular blade enclosure in the data room. They also completed the virtualization work, and now six of the blade servers host around 32 virtual machines. These machines deliver applications such as Microsoft® Exchange Server 2010 and Microsoft SharePoint® Server 2010, as well as some open-source software for web housing and planning development. "We consolidated our rack servers by around 47 per cent with our Dell blade server solution. We also gained enough extra server capacity to expand the infrastructure without the need for additional physical machines," says Stroud.

#### **IT reduces power use by more than half**

Besides consolidation, the IT team has significantly reduced power consumption with its Dell infrastructure – helping the council lower its carbon footprint. The energy saving is a result of the consolidation as well as the energy efficiency of the Dell solutions and the Intel® Xeon® processors. The Dell PowerEdge blade servers feature energy-efficient components to deliver higher-density, lower-cost processing. In addition, the Intel® technology regulates power consumption by adapting to server workloads. Stroud says: "Before, our data room consumed around 17.56 kilowatts per hour, but today this figure has fallen to around 8.76 kilowatts per hour. We've significantly lowered power use thanks to the Dell solution and Intel."

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### **Council implements cost-effective storage**

The council also gained a centralised storage infrastructure to meet the performance and availability needs of its virtualized servers. Copeland deployed four EqualLogic SANs, divided into two groups. One group provides the main storage and consists of a Dell EqualLogic PS5000XV SAN and Dell EqualLogic PS5000E SAN. The other group delivers failover and comprises a Dell EqualLogic PS5000XV SAN and Dell EqualLogic PS4000E SAN. The Dell EqualLogic PS5000XV SANs – which include 15,000 rpm SAS disk drives – support all the virtual servers and contain around 16 terabytes of data. The Dell EqualLogic PS5000E and Dell EqualLogic PS4000E SAN – which include SAS and SATA disk drives – are used for backups and can each hold around eight terabytes of data. Replication between the two groups is managed by the SANs' auto-replication features. Stroud says: "The performance of our Dell EqualLogic SANs has been great. It is a technology we plan to stick with because it meets the needs of virtualized environments and promotes simplified IT."

### **IT finds new switches easy to use and configure**

Around the same time as deploying the SANs, the council began to replace its existing networking technology with Dell PowerConnect™ switches. Originally, Stroud planned to use HP switches to support the new Dell solution because he had worked with HP switches for a number of years.

"But then I was impressed with the Dell networking technology," says Stroud. "Dell PowerConnect switches are easy to install and configure – much like the Dell servers and storage that make up the overall solution. We changed our switches to Dell and have never looked back."

### **Customer cuts IT management time by around six hours a week**

Stroud and his IT colleagues now save time on routine management tasks due to the simple design of the Dell solution and its high levels of automation. They use Dell OpenManage systems management to administer the servers proactively and value the features within the EqualLogic SANs, which automate data management, including load balancing. "We save around six hours a week in server and storage management through our Dell solution," says Stroud. "The great thing for me is that I can focus time on developing our IT strategy."

### **Council works with responsive service**

To maximise the performance of the Dell solution, Copeland choose Dell ProSupport™ with Mission Critical four-hour onsite support. It gives Stroud peace of mind to know that Dell experts are on-hand to support the IT team. He says: "Our Dell solution has delivered great performance to-date without any issues, but I know that if we ever require assistance, Dell will be there for us."

### **Citizens gain better online services, council staff work smarter**

The council is delivering better e-government services to residents and helping employees work more effectively. Copeland has digitised many of its services so citizens gain access via its website and receive a faster, more efficient response. Today, for example, they can report uncollected bins or fly tipping online. With mapping technology integrated into the website, residents can identify the exact whereabouts of the uncollected bin or waste.

The council now hopes to increase collaboration between personnel and reduce communication costs across the organisation. It plans to build on an existing unified communications infrastructure by deploying Microsoft Lync™ 2010, with the support of Dell. Apart from offering greater interoperability with other council systems, Lync 2010 will deliver enhanced presence, instant messaging, and web and video conferencing features.



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