

# Rossendale Borough Council

## *Helps Itself to a Cool Solution for a Hot Issue*

*Rossendale Borough Council is one of the six boroughs that make up Pennine Lancashire, sharing borders with Rochdale and Bury in Greater Manchester and Calderdale in West Yorkshire. Being as close to Manchester as to Preston, they are uniquely placed to maximise and exploit the opportunities and potential of both the Manchester and Central Lancashire City Regions.*

Rossendale provides a range of important local services to around 66,000 people. The Council's staff are responsible for providing services including planning, tourism, transportation and housing, as well as support functions in the local community. Over the next twelve months one of their key business objectives will be to begin delivery of the neighbourhood agenda, tailoring services to local needs and becoming more responsive to the local communities. In order to provide these objectives Rossendale BC must have an IT infrastructure which is scalable with the councils growth and provide capacity to deploy new applications which will provide the platform for these services.

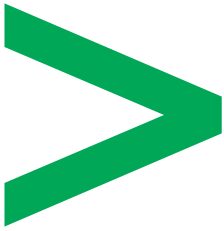
**"As a public organisation, we are driven to achieve the best return on our investment in ICT. Using NetApp and VMware, we have achieved significant efficiency savings relating to deployment and management of server infrastructure. We have also reduced our data centre's space requirements by 50 percent and we will achieve further gains from virtualisation in the future as part of our overall disaster recovery strategy. So far we have managed to achieve £70,000 in efficiency savings and have reduced our physical server count from 42 to just 3. In addition the new infrastructure has prevented the need to purchase replacement hardware including disaster recovery of £352,000."**

Andrew Buckle Head of Customer Services & ICT



### The Challenge

To provide this service Rossendale had to ensure the provision of a network that was cost efficient, effective and future proofed for forthcoming processes that are set to transform the way new applications are deployed. The need for change was driven by objectives from the Council and new Government initiatives such as the move towards Green ICT, Government Connect and the Rossendale ICT strategy. Andrew Buckle Head of Customer Services & ICT at Rossendale Borough Council knew that his existing ICT infrastructure could not support the future aspirations and objectives of the Council, such as improving response times to customers, data quality and storage, if he had the suitable infrastructure in place and efficient applications running. Adhering and supporting the Green ICT agenda was also a very high priority as reducing carbon footprint could be tackled head on with a data centre refresh.



**“The data centre was growing exponentially. The increased volumes of data we are required to store, the sheer amount of applications we required to manage all was becoming an expensive headache. We were faced with a problem from not only a cost and space perspective but also in terms of our service, support and ongoing maintenance.”**

Buckle commented.

The consistent increase in the dependency of electronic data has placed a considerable demand on Rosendale's ICT infrastructure. As a result, the existing servers were running at full capacity and the increasing number of physical servers was causing management and environmental issues. The latter in terms of power usage and cooling demands. In addition Rosendale were incurring very high 3rd party maintenance costs which were due to be renewed. New technologies and new solutions had to be reviewed and analysed to identify how best to develop the Next Generation Data Centre.

The Council soon learned that action needed to be taken before servers started to fall over due to temperature issues or became end of life leaving the council with an ICT infrastructure running on unsupported hardware. To achieve this, Rosendale had to dramatically reduce its data centre's carbon footprint: in this case, the usage of electricity to cool the data center and the quantity of servers being used.

At the same time a full review was to be undergone to ensure the Council were able to provide an effective and reliable strategic disaster recovery solution.

To support these activities, the council requires a reliable ICT infrastructure that performs well. However the Rosendale ICT department faced a constant problem; each time a different application was deployed, a new server had to be purchased and integrated with the data center. This method was cost-prohibitive, a poor use of resources and adversely affected ICT infrastructure performance. In addition to solving this issue, the team found itself with several other challenges to address:

- Reduce data centre management time and complexity
- Ensure consistent infrastructure across all sites
- Control spiraling hardware costs
- Deliver a cost effective testing environment for future application rollouts
- Meet demand for the quick deployment of a training environment.

To ensure that systems continued to operate efficiently and cost effectively, Rosendale choose ANS Group, a VMware Enterprise partner and NetApp Gold partner , to assist them in the development and improvement of their Data Centre.

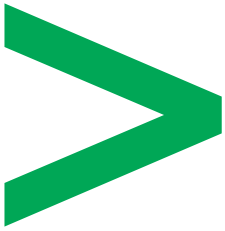
## The Solution

Rosendale Borough Council engaged with their trusted partner ANS Group as a VMWare Enterprise Partner and a NetApp Gold Partner. ANS first performed a detailed scoping exercise, to identify which servers and applications would fit into the consolidation exercise. The proposed solution was to utilize the existing IBM Badged NetApp Filers for data storage and implement a 3 node VMware ESX 3.5 virtual platform. As a trusted NetApp Parter, ANS Group identified changes to the existing storage requirements to better utilize the features available such as data de-duplication, which in turn would improve the effectiveness of the current storage solution.

The proposed solution offers a reduction in downtime to servers due to hardware failures, the ability to support older applications and servers on a supported hardware platform. The solution also provides a significant decrease in the energy requirements and consumption for Rosendale BC's Data Centre. This was a key driver for the project ensuring that the end solution would deliver a reduction in cooling requirements and power consumption.

By utilizing template's for their Microsoft Windows deployment, the council are now able to deploy new servers and applications in a much faster and controlled manner, previously a new service might have taken up to 14 days to provision, but with the help of VMware, servers and services can be provisioned in a matter of minutes rather than hours and days, allowing the council to grow its Data Centre in a secure, controlled and managed manner.

The virtual environment also provides a fully resilient platform, by utilizing "High Availability" technologies in VMware, the Council can provide a much more Highly Available service to its customers without the requirement of using extra clustering functionality and adding extra hardware / software costs. ANS Group also configure



By utilizing the existing IBM badged NetApp Filers; Rosendale could take advantage of replication technologies and data duplication technologies, resulting in a decrease in the overall storage footprint. ANS Group made configuration changes to the IBM NetApp Filers to make better use of the storage technologies which would work in hand with VMware and also configured IBM Snap Manager functionality, providing crash consistent snapshots to the Microsoft Exchange 2007 and Microsoft SQL 2008 applications running in the virtual environment, this enables the Council to provide a better manager SLA to its employees and customers.

By working with ANS Group, the council were able to meet all of the requirements objectives set out, and they now have a platform which offers the capacity for the Data Centre to grow without the requirement for further hardware and power consumption. The solution also provides a fully resilient platform for the Council's employees and customers, and has enabled the council to make significant reduction in their carbon footprint and energy bills.

## The Benefits

The benefits are easily summarised by Rosendale Council ;

Reduction in space requirements of data centre by 50 percent: Using VMware Infrastructure 3, a large number of physical servers have been replaced with virtual machines. 42 physical servers have been reduced to just 3. This approach also means that new services can be delivered faster to the Council's end-user population.

Increased cost savings:

With the reduction in physical servers and therefore power and cooling requirements Rosendale are already experiencing cost savings of around £70,000 during the first year. They have;

- Eliminated the need to refresh 42 physical servers in primary data centre: Cost saving: £126,000.
- Eliminated the need to purchase 42 physical servers in disaster recovery data centre: Cost saving: £126,000.
- Removed 3rd party hardware support contract for these servers: Cost saving £63,000 over 5 years.
- The need to purchase an additional air conditioning unit cost £20,000.
- Racks required to host additional servers £5,000.
- Annual utility costs have reduced: Cost saving £12,200.

These significant budgetary savings can be used reflect directly in the council tax payers pocket. The costs can be reinvested within the council to used to help drive the initiatives and help improve the local community.

### ➤ Carbon Footprint reduction

Significant CO2 savings in energy from power, disk cooling and space utilisation helping Rosendale strive towards a greener community. The Greening Government ICT strategy sets out the first steps organisations need to take to reduce their carbon footprint. The UK is the first government in the world to look at ICT in this way and changes are taking place immediately. Focusing on best green practice throughout government - computers switched off overnight, printers defaulting to duplex, data centres efficiently cooled. Rosendale has taken immediate steps to greatly reduce their carbon footprint.

### ➤ Server consolidation and containment

The council has achieved a 10:1 server consolidation rate. The virtual environment now offer High Availability without any additional costs across the entire server estate. Moving forward the Council can now deploy servers much more quicker, and ensure that management of new server build are kept consistent within the Data Centre

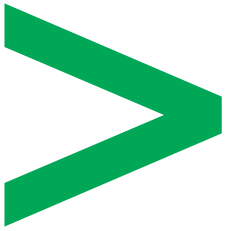
### ➤ Ease of management

VMware technology offered the intelligent design that the council required, enabling staff to redirect their efforts onto more productive activities. By introducing the building block approach of centralised resource management with VMware software, commissioning a new server has been reduced down to a few clicks of a mouse button, as opposed to days, weeks of configuration required in the past.

### ➤ Efficient testing and development capabilities

VMware software provided Rosendale with the ability to easily test system and application upgrades by configuring disks into "append" mode. The ability to copy servers into a test environment in minutes rather than hours has considerably improved development times and service delivery. New applications could be tested along with new policies. This means minimum disruption to the service.

**"For the benefit of the Borough, we now boast a truly versatile, robust server and storage virtualised environment which has been advised and implemented in a first class manner from ANS Group "**



## Disaster Recovery

Disaster recovery is another area where Rossendale has seen significant improvements thanks to the new data centre. Until recently the council's disaster recovery plan was a somewhat cumbersome process involving restoring data from tape. "We calculated recovery would take somewhere between a few days and potential a few months," Buckle explains, "depending on the scale of disaster." But now, based on tests he and his team have done, he estimates that the applications housed on the council's virtual machines would be fully operational less than an hour after a major disaster.

The improved disaster recovery and systems management doesn't just give Buckle and his team peace of mind, they also free up their schedules a bit. As the system manages itself the IT team and I can get on with doing things that are much more productive for the council. Six virtual machines can be recovered in the same time as a single physical server.

**"The Council is keen to demonstrate its achievements and delivery of value for money to its residents and is therefore keen to exploit efficiency and quality improvement initiatives. VMware's technology has been a key enabler in the transformation of our business services and approach to delivery. It has enabled flexibility in the way we respond and adapt to change to meet the needs of the business."**