

Yorkshire Water keeps data flowing clearly

With IBM XIV Storage System supporting VMware virtual servers

Overview

The need

Aiming to consolidate more production systems to its virtualized server landscape, Yorkshire Water needed a resilient, high-performance shared-storage platform offering low total cost of ownership.

The solution

Worked with IBM and IBM Business Partner Concorde IT Group to deploy two mirrored IBM® XIV® Storage Systems, supporting more than 400 VMware virtual systems running on Microsoft® Windows® and IBM AIX®.

The benefit

Significant capital and IT operational cost savings through server virtualization and consolidation; highly resilient shared storage is key to validating strategic plans for further virtualization.

Part of the Kelda Group, Yorkshire Water is a major UK utility, supplying approximately 1.3 billion liters of drinking water each day to millions of consumers and businesses. The company also collects, treats and disposes of approximately 1 billion liters of waste water safely back into the environment each day. Yorkshire Water owns and operates a huge network of physical assets including more than 700 water and sewage treatment facilities, 120 reservoirs and 40,000 miles of water and sewerage mains pipes.

Aiming to reduce its IT hardware and operational costs, Yorkshire Water wanted to significantly extend its use of server virtualization. The company was already running virtual servers on VMware ESX, and needed a resilient, cost-effective, high-performance shared storage platform to support rapid growth in this environment.

Neil Schofield, Infrastructure Platform Technologies Manager, Yorkshire Water, says: “We had been using VMware for around five years, and we wanted to make the virtualized landscape more robust and resilient so that it could start to take on more production workload. The high cost of storage that is associated with traditional Tier-1 storage platforms limited the ROI that server virtualization could deliver. We needed a solution with Tier-1 characteristics—fast, highly available, resilient, and with data replication built-in—but at lower cost. The IBM XIV solution ticked all the boxes, and included tight integration with VMware at no extra cost.”

Simple and powerful

Yorkshire Water ran a formal procurement exercise following stringent EU procurement rules to select the new storage platform, and also talked to a number of existing users before making its decision.



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—Neil Schofield, Infrastructure Platform
Technologies Manager, Yorkshire Water

“The key criteria in our RFP document were around total capacity and scalability, high availability, and high performance for virtualized environments,” says Schofield. “The IBM XIV Storage System was identified as the best option, and we particularly liked the simplicity of the solution in terms of its management interface and the software licensing. All the software you need—covering snapshots, writeable snapshots, thin provisioning, reporting, and replication—comes bundled with the XIV system.”

The company worked with IBM and IBM Business Partner Concorde IT Group to deploy two IBM XIV Storage Systems, initially with 27 TB usable capacity each, later upgraded to 43 TB. The XIV systems are housed in separate data centers and replicate some production data synchronously between each other using the built-in software.

“The deployment of the XIV systems ran smoothly; Concorde have worked as our partner for 20 years now, and they have an excellent understanding of our business,” says Schofield. “As part of our validation process for the solution, we ran a virtual server under simulated load, and found that the combination of VMware and XIV offered comparable performance to a dedicated physical server connected to our Tier-1 storage platform, which was impressive. This highlights the strong integration between VMware and XIV technologies.”

He adds, “Training was extremely easy: the XIV system has a genuinely class-leading user interface and requires very little manual intervention or configuration, which saves a great deal of management time. Compared with the interface on previous-generation storage solutions we have worked with, the XIV system is like going from a green screen to an Apple Mac!”

Resilient platform

The IBM XIV Storage Systems at Yorkshire Water provide storage for approximately 220 virtual Microsoft Windows servers and 200 virtual desktops in the company’s growing VMware vSphere landscape, of which 10 percent are production servers and the remainder are test, development and quality-assurance environments. In total, the XIV systems serve approximately 3,500 Yorkshire Water employees.

“The XIV systems have given us the resilience we needed to justify virtualizing more of our production servers,” says Schofield. “We have a strict five-year asset replacement cycle, so we replace around 20 percent of our

IBM Solution Components:

Hardware

- IBM® XIV® Storage System

Software

- IBM AIX®
- IBM Virtual I/O Server

Business Partner

- Concorde IT Group
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IT Environment

Operating systems

- Microsoft® Windows® Server 2003 and 2008

Databases

- Microsoft SQL Server

Applications

- Advantex (custom software for job scheduling)

Virtualization

- VMware vSphere
-

hardware in any given year. With the XIV systems as a key enabler, we are now planning to virtualize as many servers as possible to the VMware environment, which will provide very significant cost savings. This will also enable us to reduce the power and cooling requirements of our data center in line with corporate environmental objectives.” Yorkshire Water is also planning to use the IBM XIV systems to host the storage for its Advantex job scheduling system, which runs on IBM AIX on IBM Power Systems™ servers. This business-critical application is used by field engineers to plan and execute maintenance work on physical assets, and is a vital link in the customer-service chain at Yorkshire Water. Advantex also helps the company to understand and control the condition of its physical assets, helping it to meet the stringent requirements of its regulators such as OFWAT and the UK Environment Agency.

“We were very clear that we wanted a storage solution that could cope with a heterogeneous environment,” says Schofield. “The XIV systems give us the flexibility to support multiple different virtualization technologies.”

Making virtualization work

Yorkshire Water makes heavy use of the built-in thin-provisioning capabilities of the XIV systems for its VMware landscape, enabling it to provide new servers to development teams without actually committing all of the requested disk capacity up front. This flexibility, allied with the solution’s ability to support high volumes of parallel read/write operations, makes the XIV systems a strategic facilitator for Yorkshire Water’s future virtualization plans.

“Our former shared-storage platform for VMware was custom-built, and did not offer adequate performance, which hindered the acceptance of server virtualization in the business,” says Schofield. “Adopting the XIV systems was a key enabling factor for our plans for wide-scale virtualization, giving us high performance and resilience without high cost. The capital cost per terabyte is low, and we spend a lot less time on storage administration. If the XIV systems are still performing as impressively as this a couple of years down the line, they could well play a role in meeting the ever-increasing storage requirements of our other line-of-business applications.”

For more information

Contact your IBM sales representative or IBM Business Partner, or visit us at: ibm.com/storage/disk/xiv/

For more information about Yorkshire Water, visit:

www.yorkshirewater.com

For more information about Concorde, visit: www.concordeinf.com



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