

Lord Grey School builds a dynamic infrastructure for thin client computing



Running Citrix XenApp and XenServer on IBM® System x® and System Storage® technologies

Overview

Business challenge

Lord Grey School wanted to extend its thin client network into more classrooms, but its existing infrastructure lacked the capacity to support this expansion. The need to manage large numbers of servers also created a heavy workload for the school's two-person IT team.

Solution

Working with Precedence Technologies, an IBM Business Partner, the school deployed 18 new IBM System x3550 M3 servers and an IBM System Storage DS3400 disk storage system. Using Citrix XenServer and XenApp, the team built a standardised virtual server image that provides access to applications for up to 360 concurrent users.

Lord Grey School is a successful inclusive foundation school in Milton Keynes, UK. The school has a staff of 215, and provides secondary education for 1,400 pupils between the ages of 11 and 18. It has earned the status of a Specialist Languages and Humanities College for its innovation and achievements in these areas of study.

The school is an enthusiastic proponent of using technology to support learning, and one of the key responsibilities of its IT team is to find new ways to bring computers into the classroom.

A thin client architecture for the classroom

“We started looking at thin client technologies about ten years ago, and for the last six years we’ve exclusively used thin clients in the classroom,” comments Darren Farrow, Network Manager at Lord Grey School. “Our Precedence ThinIT terminals are inexpensive, secure, require no maintenance, and provide access to a wide range of software – from Microsoft® Internet Explorer®, Flash® and Shockwave® for simple web browsing through to more resource-intensive applications like Microsoft Office and Adobe Creative Suite®.”

The applications run on a centralised server infrastructure in the IT department, and are delivered to the thin client terminals using Citrix XenApp technology. The architecture was designed and implemented by Precedence Technologies, an IBM Business Partner that specialises in thin client solutions.

Choosing the right partner

“We believe Precedence is one of the few companies in the UK that really has expertise in thin client computing,” explains Darren. “In our experience, a lot of vendors will quite happily sell you their thin client equipment and then leave you to figure out how to build a viable architecture. By contrast, Precedence deliver a real end-to-end solution, from the server infrastructure through the Citrix layer to the



Business Benefits

- Gives staff and students convenient, secure access to applications via 800 thin client terminals around the school.
 - Enables rapid, easy provisioning and management of virtual server images: the school was able to reduce its IT management workload by more than 90 percent .
 - Provides enterprise-class performance at an affordable price-point for the education sector.
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terminals themselves. We have been working with them for many years, and they have been a true partner for us throughout that relationship.”

Over the past two years, demand for IT support has increased significantly in all departments, and more than 800 thin client terminals have now been deployed in classrooms across the school.

“We realised that at peak load, we would need to be able to support up to 360 concurrent users, and our existing server infrastructure was running out of capacity,” comments Darren. “We needed to perform a hardware refresh to support the increasing workload, and we saw this as an opportunity to rethink the infrastructure and create something more manageable.”

Reducing maintenance workload

The existing architecture used 12 IBM System x336 servers, each running Citrix XenApp for desktop virtualisation of the school’s entire range of Microsoft Windows® applications. Each time the operating system or one of the applications needed to be patched or upgraded, the school’s two-person IT team had to perform these updates manually on each server – which was a time-consuming task.

“We used to spend the first two or three weeks of each school holiday just on server maintenance, so it took up a lot of time that we could have been spending on something more productive,” says Darren. “When we discussed this with Precedence, we realised that by using server virtualisation as well as desktop virtualisation, we could just create (and update) a single virtual server image and roll it out to all the machines automatically. This would not only make the existing landscape easier to manage – it would also enable us to add more servers without increasing overall maintenance workload.”

System x and System Storage

The Lord Grey IT team worked with Precedence to deploy 18 new IBM System x3550 M3 servers, each with twin quad-core Intel Xeon processors and 8 GB of memory. Every machine runs two Citrix XenServer virtual servers, using four cores and 3.5 GB of memory for each. These 36 virtual servers are easily capable of supporting 360 concurrent users, and Lord Grey estimates that the hardware should be able to support almost twice as many if necessary.

As part of the project, the school also created a new storage area network, based on IBM System Storage DS3400 technology. Instead of each server utilising its own internal disks, all data is stored on the SAN, which simplifies storage management and improves disk utilisation.

Solution Components

Software

- Citrix XenServer
- Citrix XenApp

Servers

- IBM System x3550 M3
- IBM System Storage DS3400

IBM Business Partner

- Precedence Technologies
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— Darren Farrow, Network Manager, Lord Grey School

Bringing enterprise technologies into schools

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He concludes: “We now have almost one thin client terminal for every two pupils in the school, which puts us right at the forefront in terms of classroom IT compared to most schools in the country. As a result, we don’t need to move pupils from one classroom to another to give them access to computers: the technology is available for them wherever and whenever they want to use it.”

For more information

Contact your IBM sales representative or IBM Business Partner or visit: ibm.com/servers/systems/x

To learn more about products, services and solutions from Precedence Technologies, visit: www.precedence.co.uk



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