# Nominee: Wakefield Grammar School Foundation with Axess Systems

## Nomination title: 400 years of constant innovation in education

Wakefield Grammar School Foundation (WGSF) has a history of providing education excellence going back over 400 years, and is one of the country's leading families of independent day schools.

The Foundation comprises of Wakefield Girls' High School (WGHS), and Queen Elizabeth Grammar School (QEGS), Junior and Senior Schools, which provide a single-sex education from 4 to 18. In addition, Mulberry House Nursery offers co-education for girls and boys age 3-4 years.

Proud of its distinguished and rich history, the Foundation understands the importance of being at the forefront of IT technology and systems.

Laurence Perry, Bursar and Clerk to the Governors at WGSF, said: "The Foundation recognises the role IT plays in delivering a first class learning environment. It creates opportunities to support and extend learning for all our students, in all of our schools, and beyond the traditional boundaries of the classroom."

"As part of our on-going investment, over the summer break our IT Team initiated a plan to improve our storage infrastructure. This further underpins the Foundation's exciting growth plans and further enhances our reputation."

WGSF has experienced continual growth, both in terms of the number of users, and data. In 2010 WGSF implemented SAN storage which was now beginning to show its age. This resulted in it becoming expensive to maintain and exceeding its designed capacity. New initiatives including iPads and BYOD were adding to this burden.

This resulted in a number of challenges being experienced, including:

-        Increased administration time - the SAN was becoming complex and time-consuming to manage, with the management of data growth being a particular problem.

-       Lengthening back-up – WGSF takes advantage of having multiple sites in Wakefield by replicating data across two sites, providing resilience and reassurance in the event of a disaster recovery event.

However, back-up times were starting to impact on user experience. Back-ups were run overnight to reduce this, and then replicated over the weekend. But this still took from Friday evening through to Monday to complete.

-       Demands exceeding capacity - Peak demand between sites saw a peak of 12,000 IOPS at QEGS and 18,000 IOPS WGHS respectively. Yet the original storage was only capable of delivering sub 4,000 IOPS at both sites.

-       Limiting application adoption - Several new features contained in VMware, which were seen as essential to the Foundation, would not run on the existing storage system.

-       Hardware unreliability - given the constant demands placed on the existing storage infrastructure it was only a matter of time before the hardware suffered reliability problems. This would have had a detrimental impact on students and staff.

John Lister, Technical Director of WGSF and Simon Cunningham, Senior Network Administrator of WGHS set out the aims and objectives to revamp the data and storage infrastructure.

John Lister, commented: "We knew early into the academic year our SAN would be a priority for an upgrade. And we also knew it wasn't going to be a small undertaking. With Simon we researched the marketplace to find a company who could help us achieve our vision of delivering a fully agile storage platform."

"We've had previous dealings with Axess Systems, and I'd always been impressed. So it made sense to invite them to give us their thoughts, along with a couple other firms."

"From the outset Axess Systems took time to understand our requirements, before detailing how a NetApp storage platform could meet our aspirations. And due to the nature of education they were well aware the project had to be completed to a tight schedule."

After researching WGSF technical and commercial requirements, Axess Systems recommended a storage platform which consisted of two NetApp FAS 2552's, with solid state FlashCache Accelerator disks. This would deliver the read performance the Foundation demanded.

NetApp's premier software bundle provides the enhanced resilience, performance and replication features.

Each storage platform provides scope for growth, which is expected to be 20% year on year. This growth will be minimized using de-duplication, compression and thin-provisioning technologies.

Utilising the partnership between NetApp and Veeam Software, the design benefits from the use of Veeam Snapshot Integration. This enables faster recovery times and less resource intensive backups.

WGSF and Axess Systems worked together to ensure any challenges were kept to a minimum. This is typified by Simon and John providing a dedicated 'build room'. By being able to configure all of the hardware in a 'production line', the build times were reduced and enabled the implementation and testing to be completed ahead of schedule.

WGSF are now back after their summer break, where the storage is performing as expected and providing WGSF with many benefits.

These include:

Peace of Mind – It's easy to forget that whilst the IT industry talks about data and GB, in reality you are dealing with important student projects, coursework and assessments. Given NetApp's reliability of 99.999% availability, it gives WGSF complete peace of mind over their storage platform.

**Ease of Management** - Administration is performed with the storage online with complete read and write data access. The team at WGSF can make changes, perform maintenance, expand storage capacity, and upgrade disk drive firmware.

**Reduction in disk storage** - WGSF achieved a 38% reduction in their storage. With just over a third of their previous data wastage being saved, they benefit from the extra capacity purchased and the longevity an extra 62% can provide.

**Innovation** - NetApp FlexClone technology allows WGSF to take a snapshot of a live virtual server to deploy an exact replica, without wasting any space. This means WGSF can perform tests, patches, upgrades and practice with the systems before committing these changes to production.

**Time Savings** – back-up and replication times have been dramatically reduced. Utilising FlashCache in conjunction with SSD's both sites are  proven to sustain just under 37,000 IOPS!

**Competitive Advantage** - WGSF operate in a competitive environment. And by being able to demonstrate they use IT usually found in Enterprise Businesses, it provides a compelling reason why parents should choose WGSF for their children's education.

## Why nominee should win

-        Using Innovative IT to create a first class learning environment which enables their staff and students to break through the confines of the classroom

-        Understanding the needs of their users by being proactive to the challenges they were facing.

-        Reducing the administrative burden – The IT team can now spend more time finding more ways to improve the learning experience of their students.

-        Peace of mind - invested in a tried and tested design which will keep pace with their demands, whilst achieving 99.999% reliability.

- **Achieved a 38% reduction in their storage, delivering 37,000 IOPS.**