



William Hulme's Grammar School

William Hulme's Grammar School, Spring Bridge Road, Manchester M16 8PR
 T: +44(0)161 226 2054 F: +44(0)161 232 5544 <http://www.whgs-academy.org>

William Hulme's Grammar School has undergone a remarkable transition. Previously a traditional Independent School, William Hulme's Grammar School was one of the first such schools to secure Academy Status under the much-publicised Government initiative.

Securing funding from both public and private sources, Academies are by definition expected to offer exceptional education opportunities on an unbiased selection process with specialisation in specific subject areas; which in the case of William Hulme's Grammar School are the Sciences and Modern Foreign Languages.

The school's founder, William Hulme, would surely have viewed the adoption of Academy Status as positive given that it was originally founded on the base of his charitable provision for young boys' education following the premature death of his only son. The ensuing Trust having eventually funded the building of three schools in Manchester, Oldham and Bury.

The associated funding secured through its new status has afforded the school an opportunity to develop a truly 21st Century infrastructure and a learning environment in the spirit of its 19th Century Founder.

IT STRATEGY

Four years ago, when Alex Bushby, Network Manager joined William Hulme's Grammar School, its ICT strategy was based upon three servers: a far cry from today's networked infrastructure now comprising: -

14 Servers

more than 500 desktop and laptop workstations; a Cisco handset wired and wireless VOIP telephony system

interactive white boards in each of the 55 teaching rooms

1650 ActivExpression handheld devices that allow all pupils to participate in question and answer sessions

18 camera CCTV security system digitally recorded over a 30 day cycle.

A novel extension to the school's IT infrastructure is the campus-wide streaming IPTV based digital signage display system that includes a ticker tape with important school information.

Building extensions afforded Alex an opportunity to install a fault tolerant fibre-optic backbone network supporting campus data rates of between 3Gbps and 5Gbps.

A secure air conditioned computer room houses all primary servers and core network equipment in neat rack-mount cabinets with front and back doors for easy access and documented cable management, a pet project for Alex that ensures rapid attention to cabling issues is possible.

Microsoft is the dominant operating system, which Alex recognises introduces a management challenge, especially with regard to periodic updates. Alex admitted, "I undertake controlled server reboots to ensure that all operating systems are up to date and I keep a keen eye on security updates to fend off potential viruses and harmful attacks".

As one would imagine, security is paramount in this school environment where Internet access and usage is tightly controlled and monitored through use of a BLOXX security appliance and additional systems that Alex has introduced.

Despite being armed with a generous IT budget for the refit, Alex was not tempted to waste money replacing equipment unnecessarily. In the language department, for example, he recognised that PCs installed fairly recently were still more than fit for purpose and should not simply be replaced to bring uniformity. Moreover, he realised that he did not want to be faced with a universal technology refresh when the time comes to replace equipment, preferring instead to plan for staged system replacement as and when appropriate.

Walking around the school with Alex it becomes quickly apparent how his love for technology is equally matched by ICT's applicability to supporting teaching and learning and that he and his team care as much about the User experience for both Pupils and Teachers as they do about the power of contemporary ICT.

Whilst the Internet has not replaced the well stocked library, it is clearly fundamental in supporting William Hulme's Grammar School voice and data infrastructure: witness the constantly streamed IP TV system that continuously broadcasts terrestrial and satellite TV programming throughout the school which is used to deliver specific content to selected work stations.

Add the school's dependence upon VOIP for internal and external telephony, the wealth of educational material supplied by ULT and other sources and used to support lessons, it is obvious that a high bandwidth, high availability and high quality Internet service is essential.

Alex had become disenchanted with his existing Internet Service Provider and decided to evaluate new options for connectivity whereupon he encountered Metronet.

Cautious at first about wireless last mile connectivity, Alex drew comfort from the fact that Police and Local Authorities depend upon Metronet to provide CCTV connectivity. "Given Metronet's ability to provide comms to a lighting column, I thought that circuit delivery to our building must surely be straightforward."

Ironically, soon after installation, Metronet experienced a network problem that brought down connectivity to William Hulme's Grammar School. In fact the circuit suffered two periods of outage within one week.

Ordinarily Alex would have been within his rights to be apoplectic given the reassurances prior to his ordering connectivity and the expectation level that had been set. However, "Unlike my previous ISP experience," as he suggested, "Metronet were proactive in engaging with me to explain the problems that had been encountered and the remedial action being taken to address the issues."

The problem at Metronet related to a core fibre network upgrade based upon Cisco MPLS switches that was designed to introduce resilience, improve reliability and enable a range of new data services to be offered. Last minute issues with the legacy backbone infrastructure resulted in the Company having to make an emergency transition to the new network.

Since this time, the network has performed reliably and to the satisfaction and delight of Alex who particularly appreciates being able to access competent engineers whenever the need arises.

THE BENEFITS

Although William Hulme's Grammar School is now academy funded, it is not awash with money and it is fair to say that the school sought and believes that it has found the best value for money, fully symmetrical 10Mbps Internet access service on the market.

The capability of the network connection is tested every day with time sensitive applications such as VOIP and IP TV being visible barometers by which Users assess the quality of the school's internet connection.

Alex is quick to demonstrate these applications and testify to his network design amongst the many technology achievements for which both he and the school are rightly proud.

THE CHALLENGE





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