Forest School has always been a forward-thinking school and readily embraces new technologies. In recent years, under the advice and guidance of Systems Manager, David Posner, it has invested heavily in IT in terms of personnel and equipment and considers it essential that all pupils and indeed teachers should have access to the best facilities possible. Technology hardware is constantly being replaced and updated so that it can run the latest software.

Fibreoptic networking links all buildings and academic departments to the Computer Centre, which houses the advanced file servers providing a wide range of educational software. The school network includes over 400 computers giving Forest School an excellent computer access/student ratio of better than 1 to 3.5.

Introduction to Wireless

Originally student Internet access was only available from two fixed workstations in the school library, which was restrictive and inconvenient.

A couple of years previously, a trial of wireless technology was undertaken and a small wireless LAN was deployed in the school library for pupil use. A number of laptops were purchased and an access point installed in the library.

With the advent of wireless technology, more pupils were able to use computers and access the Internet concurrently. More importantly, they were free to roam around and take advantage of the three floors of the library – taking laptops to their research and dedicated study areas or even group meetings.

Due to the success of the primary installation, the school soon realised how the flexibility and mobility of wireless technology could be applied to improve teaching practices.

The decision was taken to gradually develop a wireless infrastructure throughout Forest School and provide a truly wireless environment for the benefit of teachers and pupils alike.

David Posner initially looked at a variety of wireless networking solutions but finally decided to use D-Link’s Air 802.11b wireless products. The school had already installed two of D-Link’s DES-6000 128 10/100Mbps Managed Layer 2 Switches with great success, as well as using D-Link network cards for many years. David Posner recognised D-Link to be a manufacturer of reliable, cost-effective networking products suitable for the education environment. David also took advantage of the Clarity Pricing Programme that D-Link offered to customers in the public sector such as education, with a standard 6% discount off list pricing.

“We originally used Cisco catalyst switches for our network backbone. When upgrading to Gigabit, D-Link switches were chosen as they provided a comprehensive and very cost-effective solution.”

Founded in 1834, Forest School is a large site set in 60 acres of forest land and is divided into three distinct sections:

- Preparatory School – 4-11 years
- Boys School – 11-18 years
- Girls School – 11-18 years

Location: Snaresbrook, London
Number of pupils: 1,200
Number of teachers: 105

D-Link
Building Networks for People

Case Study
Something in the Air

Initially, D-Link’s DWL-1000AP Access Point and DWL-650 CardBus Adaptor for notebook PCs were used by the IT staff in the Computer Centre to test data transmission and range limits. The results indicated that even through the stone walls of the 150-year-old building, throughput and access remained constant.

With these impressive results, further D-Link Access Points were deployed in the staff common rooms and other strategic meeting places throughout the school to satisfy teacher requests to be more mobile and to allow meetings to be held in more convenient locations.

As the school began to experience the increased benefits of wireless technology and particularly the good return on investment from D-Link products, Forest School advanced its ambitious plan to enable universal wireless network coverage throughout the school. To support the plan, a programme to provide laptops to all teachers was initiated, whilst further D-Link Access Points and CardBus Adopters were deployed alongside Wi-Fi enabled laptops and Pocket PCs.

Wireless Working

As a result, IT proficiency among staff has been enhanced, lending flexibility and mobility to teaching. Files, emails and databases can now be accessed wherever teachers are in the school and has enabled the preparation of lessons and reporting to be undertaken at the teacher’s convenience.

With the increased freedom of wireless, teachers can now also deliver lessons from their laptops; essentially, the classroom can now be taken to the pupils. The use of email has been extended and, crucially, communication costs have been cut and time-management significantly improved.

Increased Benefits

D-Link launched its AirPlus range of wireless products around the time Forest School was deploying its wireless LAN. These AirPlus products are 802.11b compliant but have the added benefit of transmitting data at up to 22Mbps. AirPlus also enables increased security with 256-bit WEP encryption and provides an increased range of up to 400 metres outdoors.

Data throughput in the network using the AirPlus products was significantly faster. The overall performance of the entire wireless network was vastly improved, whilst the interoperability between the D-Link Air and AirPlus products was seamless.

Forest School’s aim of 100% wireless coverage provision at the school is almost complete using the AirPlus products. Teachers have certainly taken advantage of this benefit and have even been seen preparing lessons whilst supporting the school cricket team.
“D-Link’s wireless technology has extended our network to new and vital areas. Teachers have certainly embraced the technology as it has enabled them to become more mobile and ensured they can use their valuable time more efficiently,” said David Posner. “D-Link technology has been an excellent investment for us; the AirPlus range in particular has pushed the boundaries of technology at the school without a single technical hitch.”

the school of the future?

According to David Posner, in the future every child will have wireless devices in the school to enhance the learning experience and the network needs to be ready.

“Wireless networking is relatively inexpensive, so the decision was made to install it without delay to gain immediate benefit. We will add and upgrade it as and when necessary as the technology continues to develop. To this effect we have recently replaced all of our existing access points with D-Link’s AirPlusXtremeG+ wireless network products, that have increased speeds of 54Mbps (802.11g).”

David has also recently purchased a D-Link DWL-1800R and DWL-1800B outdoor wireless bridge solution. Two buildings on the school campus have been difficult to connect via cable and so the remote base station and remote station wireless bridge respectively have been installed. They will provide efficient, cost-effective point-to-point and point-to multipoint wireless networking for building-to-building application in any weather conditions enabling a complete, fast and secure wireless environment.

“With D-Link we now have a robust and flexible network, prepared for the demands of a school in the 21st century.”
In With the New, In With the Traditional

With such a large school network comprising 400 computers and the new applications particularly in wireless, demand for bandwidth and speed in the infrastructure has increased.

As a result, David Posner has further invested in the D-Link proposition with the purchase and implementation of:

• Fourteen DES-3226S 24 10/100Mbps ports managed stackable switches.
• Two DES-3226 24 10/100Mbps ports managed stand-alone switches.

This has enabled seamless integration of Layer 2 and Layer 3 packet switching throughout the school.

For backbone connection the following have been deployed:

• Three DGS-3308FG Layer 3 Managed Gigabit Fibre switches (6 SC 1000BASE – SX Gigabit Fibre ports, 2 GBIC ports)
• One DGS-3308TG 6 Gigabit Copper ports managed switch

These switches will provide greater Internet connectivity at the school enabling more users to work on the Web from their desktops.

“Until now the school has only been able to deliver 100Mbps speeds to the network backbone, but the use of the D-Link Layer 3 switches has enabled Gigabit to be deployed allowing quicker and more flexible access to the servers,” David Posner commented.

“We originally used Cisco catalyst switches for our network backbone. When upgrading to Gigabit, D-Link switches were chosen as they provided a comprehensive and very cost-effective solution.”

“Forest School now has a powerful yet conventional switching infrastructure that reliably supports a 400 wired and wireless user network. The interoperability and integration between the infrastructure and wireless applications is flawless and is a compelling endorsement of D-Link’s products.”

David Posner concluded “With D-Link we now have a robust and flexible network, prepared for the demands of a school in the 21st century.”