Wireless Network Access

Oaks Primary School are leading the way by introducing students to modern computing technology from an early stage. A recent network infrastructure upgrade coupled with blanket Wi-Fi coverage ensures students can access the network and educational resources from anywhere within the school grounds.

InterconnecT

Catering for over 380 pupils, aged between 4 and 11, Oaks Primary School in Crawley is setting the standard all other primary schools are striving to reach.

With a varied base of students, including those with learning disabilities, and some students from a range of minority ethnic backgrounds speaking English as a second language, Oaks Primary have created a diverse environment that encourages students to develop strong social skills.

The school provides part or full time Nursery education, Nursery lunch club and before-school breakfast clubs for Reception to Year 6. The school has gained the Healthy Schools, Investors in Health, Sportsmark, Activemark, Eco Schools and Travel Plan awards.

The school was in need of a network overhaul to support the growth being observed in online educational resources, and a wireless network to enable free roaming throughout the campus. InterconnecT, a long established data networks installation company approved by West Sussex County Council and the Trading Standards Agency, were called in to design and implement a solution.

A Brand-Rex Cat5e structured cabling system was chosen for the wired network, along with a fibre optic backbone between the each cabinet within the campus.

The solution offered the school a robust and stable platform with support for Gigabit speeds site wide. Installed into existing raceways and containment to reduce labour and material costs, the system was extended to offer additional network ports, supporting the schools growth over time.

Once completed the structured cabling system was complimented with a wireless access network. TRENDnet was chosen as it offered a high performance 300Mbps 802.11n network that is also fully backwards compatible with legacy products using 802.11b/g technology. Power-over-Ethernet (PoE) technology was also utilised throughout to eliminate the need for a local power source at the access point locations.

Eight port Gigabit PoE switches were deployed in a number of locations and linked into the network via a fibre optic backbone. The switches, model number TPE-80WS, also offer a web-browser based smart management facility that enables features, including Quality-of-Service (QoS), per-port Access Control and more, to be configured.

Seventeen high-speed PoE access points, model TEW-638PAP, were deployed in strategically selected locations to provide blanket Wi-Fi coverage throughout the campus. Very careful planning and consideration was required at this point as the structure of the building prevented wireless signals passing through most surfaces such as walls and ceilings.

A further four access points were deployed internally and connected to external high-gain antennas, model TEW-AO08O, using high quality LMR-400 cable. This enables students to roam the campus both internally and externally without dropping the wireless connection, no matter where they choose to work.