



*We were impressed, so impressed*

## *Edensor Technology College - Staffordshire*

How many of us regularly experience difficulties with our wireless connectivity in school, actual connection problems, reduced download speeds and countless roaming issues?

Part of the problem is the way that we use computers in school and part of it is the wireless LAN infrastructure. Increasingly we demand greater flexibility in our use of ICT with sets of laptops being used all around the school environment rather than using dedicated hard wired computer rooms. We also operate within a strict routine of time tabled periods which further compounds the problem, we expect 30 laptops to be able to connect wirelessly, simultaneously and let's face it, the systems that most of us have are simply not designed to do that. At Edensor we have gone to great lengths to overcome some of these issues, developing a two stage login, the first to access applications and the internet and the second to save their work or access files on the network. Even with this two staged approach we still fall short of staff and student expectations and let's face it, students judge the efficiency of the school network by how fast they can log in and access the internet!

With this in mind we invited Solutions House to demonstrate their Extricom wireless LAN system, Steve our Senior Technician with responsibility for development and innovation had identified that the Solutions House system potentially had distinct advantages over our current system, which made it worth pursuing.

*"The extricom system operates in a way that allows seamless handover, and I mean seamless"*

Deputy Head Teacher  
Richard Pickard

Solutions House  
The Heath Business  
& Technical Park  
Runcorn  
WA7 4QA

01928 515 600

[www.solutionshouse.ltd.uk](http://www.solutionshouse.ltd.uk)

The demonstration was very positive and we convinced Solutions House to leave the equipment with us for further testing. The following evening we set the equipment up in a typical classroom environment in one of the older, Victorian brick built areas of the school, notorious for interrupted wireless LAN coverage. The equipment consists of a wireless LAN switch, four Access Points (APs) and associated cables.

With the equipment set up (literally in a matter of minutes) five of us took three laptops each and logged into the network. A number of tests were done including login response times, and download speeds, all whilst monitoring the band width usage.

The system performed as expected, indeed as well as it had done in the Solutions House demonstration with just one laptop. Satisfied with the basic functionality and performance we started to extend the boundaries. The distance between the AP and the laptops was gradually increased to the point where performance started to deteriorate, but even then it was in excess of the normal wireless range. This was pleasing but what came next was truly impressive.



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 *Roaming Data Access*



# Solutions House

Specialists in roaming user IT solutions



Our current system allows roaming, automatically disconnecting from one access point before connecting to another, but each handover takes time, I know that we are only talking seconds but in ICT terms we expect an instantaneous response.

The Extricom system operates in a way that allows seamless handover and I mean seamless, it was wonderful to watch the facial expressions of the technical team as they literally plugged and unplugged access points as fast as they physically could without any degradation of connectivity performance.

In a typical wireless LAN system each AP has its own physical identity requiring each device to make a connection with it in order to access the LAN. The Extricom system supplied by Solutions House is based upon a "fully centralised wireless LAN architecture", where it is the switch that has its own identity and each access point connected to it shares that identity allowing them to act as radios, with no software, storage capability, MAC or IP address and so each client device (laptop) effectively communicates directly with the switch.

This approach has a number of benefits. Roaming between APs provides seamless connectivity. You can site APs anywhere you want to without worrying about consistent capacity or interference between points. We should be able to effectively provide blanket coverage of an area with

multiple APs overlapping in a way that is simply not possible with our current system. Another positive point is that the APs are powered over the Ethernet connection therefore removing the need to plan 240v mains connections / wiring into a point installation.

The seamless handover between APs makes it the perfect solution for roaming wireless Voice Over IP (VOIP) telephone communication, something that we are keen to explore considering the potential cost savings and flexibility of use.

Obviously this high level technological innovation comes at a cost but it is not prohibitive as you might expect and not much more than the standard less flexible equipment.

If you were planning a completely new wireless installation you may actually save money as the ability of the APs to operate on the same band simultaneously without interference removes the need for a costly initial site survey.

At Edensor we put together a 3 year plan, initially installing into one area with planned expansion and expenditure over the coming years.

We were impressed, so impressed that the first phase was installed in the summer of 2008. For further updates on performance and reliability please feel free to contact the technical support team at Edensor Technology College.

By Richard Pickard  
Deputy Head Teacher  
Edensor Technology College

Solutions House  
The Heath Business  
& Technical Park  
Runcorn  
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