Case Study:

Plymouth College of Further Education

BACKGROUND

Plymouth College of Further Education has always prided itself on being at the forefront of technology. Which is why when the need to provide its lecturers with flexible access to IT resources and the Internet was raised, the college was ready to embrace state-of-the-art technology to provide a cost-effective, efficient solution to the problem.

The college wanted to enable teachers and staff to gain access to the Internet and information stored on their laptop PCs to deliver their lectures and move on to repeat the process in another classroom with complete freedom of movement. The college management felt that this flexibility would enable lecturers and students to benefit from access to the most up-to-date information from the Internet, Microsoft PowerPoint presentations, handouts and graphical displays with the optimum speed and convenience.

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THE CHALLENGE

The college issued a Request for Tender inviting suppliers to submit a proposal to design, build and implement a scalable, cost effective Wireless LAN network that wouldn't easily date for up to 600 members of staff over two campuses 1.25 miles geographically separate.

The solution of choice would need to accommodate a variety of different applications ranging from a presentation to a multimedia stream from the Internet. Key factors influencing their decision would be cost effectiveness, reliability and speed of implementation. The new wireless solution needed to seamlessly integrate with their existing 100mb wired network and crucially needed to be up and running in time for the start of term.

THE SOLUTION

Plymouth College selected the proposal by DMT Communications who proposed a wireless LAN solution from Intel combined with the use of PowerDsine's cutting edge Power over LAN technology. The final solution consisted of 104 54mbps Intel® Pro/Wireless LAN 802.11a access points and 30 PowerDsine multi-port midspan. The Power over Ethernet solution, that enables power to run over standard Ethernet cables, allowed the college to eliminate the need for rewiring of electrical circuits and the need for the installation of extra power sockets next to the new wireless access points, dramatically reducing both costs and time of implementation.

According to Chris Zisimides, Network Manager for Plymouth College of Further Education, "We realized that speed was the vital ingredient, both in terms of needing to provide a 54mbps solution due to the

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PowerDsine 6000 Family
Power over Ethernet Midspan

number of users and types of applications required, as well as in terms of the speed of implementation. We felt confident that using Power over Ethernet technology was the right approach because of the cost and convenience factors."

However, whilst many Wireless vendors, including Intel, bundle a single port Power over Ethernet module with their wireless hubs, none appeared to support the 802.11a 54mbps standard. After some intrepid surfing on the Internet DMT discovered that PowerDsine's midspan hubs offered a solution to the dilemma. Not only could they support the 802.11a architecture but they also offered an additional benefit by providing a multi-port solution that allowed 24 hubs to be powered by a single multi-port midspan - a far more elegant solution than the alternative of connecting one hub per port.

Chris Zisimides added, "We already use Cisco routers and switches to connect our remote sites but had previously dismissed the idea of opting for the Power over Ethernet feature as the premium price we would pay for the Cisco feature was too high since we didn't need every port to support Power over Ethernet. The PowerDsine Midspan 6000 was an ideal option as we could select from 1,6,12 and 24 port options and only use the number required for our Wireless LAN connections."

IMPLEMENTATION

The installation of the wireless LANs and the Power Over Ethernet midspans was completed in two weeks in time for the start of term. The college and Intel and DMT had previously carried out independent surveys to assess the location and number of hubs required. It was decided to place the hubs in the ceilings in the corridors as this position afforded the optimum signal to the largest number of classrooms. According to Chris Zisimides without the Power over Ethernet products this would have necessitated complete rewiring as no power points and electrical circuits were present in the ceiling.

BUSINESS BENEFITS

The benefits of the wireless LAN to the lecturers and students has been the convenience and ease of simply walking into the classroom and beginning the lecture without the encumbrance of power plugs and cables and the physical restrictions of a wired network.

The introduction of Power over Ethernet to the equation meant that the college was able to save 40% of the overall cost of the installation by eliminating the need for additional wiring and power points, not to mention the extra time and disruption caused by the need to install extra circuits and power outlets adjacent to each wireless hub.

Chris Zisimides comments, "We are delighted with the installation and particularly impressed with the PowerDsine Midspans which have saved us substantial amounts of time and money. One added advantage has been the ease of fault determination and ability to easily identify and isolate a hub if it is faulty without impacting on the whole network. Longer term it offers us complete scalability to add in additional users without needing to interrupt service to existing users."

CONCLUSION

In Chris Zisimides opinion, "The installation has been a complete success. PowerDsine's Power over LAN technology played an important role in making the whole process quick and painless for all concerned. It also enabled us to save a significant sum of money by eliminating the cost of electrical rewiring".

From the lecturer's perspective the new wireless LAN solution is much more convenient and less time consuming. From the student's the content of lecture is more varied and completely up-to-date. In the future we plan to allow students to bring their own laptops into lectures and use the wireless LANs to find and share information on the network and the Internet. This will significantly test the system as we have 25,000 full and part-time students in the college today.

As a result of the Intel/PowerDsine wireless network the college's lecturers and students will have access to more varied sources of information without the restrictions of physical cables, at a price that was not prohibitively expensive and in a manner that was nor disruptive to the regular workings of the college.

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