



Motorola Installs a Wireless LAN to Improve Communications at Kilkenny Castle



"Until recently, Kilkenny Castle was completely un-networked. Only a few staff had Internet access and it was via a dial-up connection, which was extremely slow. There was no file or print sharing, and we had to dial-up to get our email. It was a pretty medieval arrangement. Now we have completely networked the site with a minimal number of alterations. Given the castle's status as a world heritage site, we were very restricted in the modifications we could make so a wireless network was the perfect solution. We presently have around 90% coverage in the castle, which is impressive considering that in places the walls are very thick, and there are six floors and three long wings to the building. The installation only took four days and did not disrupt the guided tours of the castle, which would have meant a loss of revenue,"

— Paul Smith, IT Project Manager, Kilkenny Castle

Company overview: Kilkenny Castle

Kilkenny Castle is a 12th Century castle, remodeled in Victorian times and set in beautiful parklands. Once the home of the Marquesses and Dukes of Ormonde, the castle has three main wings, including a library, drawing room, a kitchen which serves as a tea room during the tourist season, an art gallery which was previously the servant's quarters, and conference facilities. A staff of around sixty occupies the building.

The Castle is listed as a heritage site and modifying the building is an extremely sensitive issue. The Office of Public Works (OPW), which has overall responsibility for conservation, town planning, facilities and property maintenance, also has an office at the Castle

The challenge: Updating a 12th century castle to enable 21st century communications

Previously, Kilkenny Castle was networked with Category 2 cabling, which is no longer in common use, and was incapable of transmitting data at fast speeds. The cabling was used purely to run the telephony system, and there was no Intranet or company network in existence, so all of the computers were

Customer profile

Kilkenny Castle

Company
Kilkenny Castle

Location
Kilkenny, Republic of Ireland

Industry
• Tourism
• Public works

Motorola Products
• WS5100
• Wireless access ports
• PTP100 Point to Multipoint Solution
• PTP 400
• PTP 400 Lite

Partner
• Dimension Network Systems

Benefits
• Increased employee communications
• Improved efficiency and productivity of office staff
• High speed Internet access
• Opportunities to increase revenues

completely 'stand alone'. This meant that staff could not communicate either with other wings in the castle, or the outside world, which was increasingly becoming a problem. Internet access was slow, so it was difficult to converse with other heritage sites via email, raise queries or look up information on the Web.

Furthermore, visitors in the conference room did not have access to the Internet. Many guests expected this facility, and the team believed that its addition would increase revenues from this part of the castle. The OPW also needed to communicate with its headquarters, located several miles away, and were doing so with an analogue modem which was too slow.

On this basis, the team at Kilkenny decided to implement a new network. However, because there was no satisfactory existing infrastructure and alterations to the building would be extremely difficult, the situation was a complicated one. 'Wired' solutions, were considered unsuitable as they were too expensive, too arduous or too complicated. Two of the wings of the castle were also a long way apart, which made communications between the sections difficult. Standard Wi-Fi bridges were unsuitable, and cabling across the main courtyard would have been extremely unsightly.

"It was a very tricky situation. Productivity was starting to suffer because of our lack of modern communications. We really were starting from scratch, but with a lot of restrictions on what we could do. For example, there weren't any runners for new cabling and in order to get permission to fit these, we'd have to undergo a laborious administrative process. The more we thought about it, the more wireless seemed like the perfect option," said Paul Smith, project manager, OPW.

The solution: Wireless network provides quick, flexible, robust online access

Dimension Network Systems, a value-added integrator of networking systems, proposed and installed a secure Wireless Local Area Network (LAN) using the Motorola WS5100 wireless switch, a number of 802.11b/g access ports and several Motorola PTP 400 series wireless point-to-point Ethernet bridges to provide wireless coverage around the site. With minimal amounts of cabling needed within the wings, the solution circumvents the problems associated with installing tracks in a listed building and, because it is wireless, modifications to the network can easily be made, making it simple to add new or change existing PC arrangements.



The Castle also uses Motorola PTP 400 series products as long-range wireless Ethernet bridges, each capable of transmitting data at up to 20Mb/s full duplex over distances of several miles, to join the network back to the main headquarters of the OPW on Hebron Road. The OPW has its mail server in its headquarters, so the fast data link between the two sites allows employees to access their email easily and via conventional Pegasus Citrix clients, rather than having to dial up and retrieve the information. Further high-bandwidth links are in place between the Castle and the garden office and between two of the wings of the castle, allowing them to communicate without having to lay cable in the ground, or in the main courtyard.

Kilkenny Castle has also implemented an active redundant Motorola WS5100 wireless switch so, in the unlikelyhood of a problem with the primary switch, the redundant can seamlessly take control and maintain wireless LAN connectivity throughout the Castle. The IT team has also chosen to use Motorola's "Service from the Start" support service so that, in the event of a problem, the switch and access ports will be repaired within 24 hours.

The Motorola / Dimension Network Systems solution is now enabling the 60 staff onsite at Kilkenny to access their email, use the Internet and carry out print and file-sharing tasks, which was simply not possible in the past. OPW employees can access the network files at the Hebron Road office, and users of the conference centre area can now access the Internet via a dedicated wireless broadband connection, which the Castle charges for, adding an additional revenue stream.

The benefits: Fast access to data improves staff efficiency

"Although it's difficult to quantify the benefits of such essential technology, there have been a number of specific instances where our teams have seen significant advantages. For example, the ground staff can access the Internet to look up details on plants and pests within the grounds, rather than having to consult a physical library, which is much quicker, more efficient and usually more up-to-date," continued Smith. "Dialing-up to access email and the Internet is extremely slow and, with everyone sharing one physical connection, it could get very congested. We were very impressed with Dimension Network's Systems ideas and efficiency, and the capabilities of the Motorola equipment – few companies could offer us such a neat solution integrating the access ports, switches and wireless backhaul in the way



that the DNS team did. The solution has really brought us out of medieval times and into the 21st Century.”

To learn more about Motorola wireless products, go to www.motorola.com/enterpriseWLAN

About Dimension Network Systems

An Irish company founded in 2002, Dimension Network Systems (DNS) is a value-added integrator of multivendor networking systems. Its technical expertise, professionalism and partnerships provide the most-inclusive, single point-of-contact for network solutions. Its services range from assessment through to support of installed systems. Dimension Network Systems is a group of dedicated professionals with a consultative approach to communication systems integration. It is an independent company with a strong technology bias, which allows it to provide the best and most economical technology to its clients.

About Motorola

Motorola is known around the world for innovation and leadership in wireless and broadband communications. Inspired by our vision of seamless mobility, the people of Motorola are committed to helping you connect simply and seamlessly to the people, information, and entertainment that you want and need. We do this by designing and delivering “must have” products, “must do” experiences and powerful networks – along with a full complement of support services. A Fortune 100 company with global presence and impact, Motorola had sales of US \$42.9 billion in 2006. For more information about our company, our people and our innovations, please visit <http://www.motorola.com>.



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CASE STUDY: KILKENNY CASTLE