

Smart infrastructure for National Grid

When National Grid wanted to bring its Electricity Alliance partners into single premises, it knew its Smart Workspace policies would demand expert IT network and communications skills.

The Challenge

National Grid wanted to bring its Overhead Line and Cable Alliance partners together into one building. In 2011 it invited tenders to install and manage its IT and communications infrastructure at this new premises. The primary challenge would be creating a single IT infrastructure that enabled each Alliance partner to access the building's resources securely. This infrastructure had to comply with National Grid's Smart Workspace initiative. This is a series of policies that aim to improve the utilisation of National Grid's property estate whilst increasing collaboration amongst its stakeholders.



nationalgrid

National Grid is one of the world's largest utility companies. It's four overhead line alliances are comprised of eight separate parent companies. Together they are refurbishing, constructing and upgrading the UK's electricity transmission network.

Overhead Cabling Alliance Partners:



Balfour Beatty



Abtec won this complex project with its innovative use of technology, appreciation of the client's needs and project management skills. The project was completed on time, ready for the first phase of moves in July 2012. It's a project that displayed the breadth of Abtec's skills, including IP networking, voice communications, virtualisation and its flexibility.

The Solution

The first challenge in this project was creating the right infrastructure that supported National Grid's Smart Workspace approach. "The Alliance partners wanted to feel like they were working on their own, corporate, Local Area Network, sharing data securely with colleagues in the same building and accessing their own organisation's applications. Installing a separate LAN for each partner was out of the question." Explains Phil Kennerdell, Sales Director at Abtec; "We needed to give National Grid the ability to treat the building's physical and IT infrastructure as a service."

Abtec's Cisco engineers tackled this problem. They partitioned the single, physical Local Area Network into 16 separate virtual LANs (VLANs); one for each partner, plus one for each business unit and the building's physical resources. Next the team shared the building's physical resources, such as printers and communication system, across those VLANs. Abtec's lead Cisco engineer, comments; "We built a Cisco virtual LAN and WLAN infrastructure that uses the 802.1X protocol. Installing Cisco wireless access points means that each employee can now access their VLAN and use the IT resources wherever they are in the building."

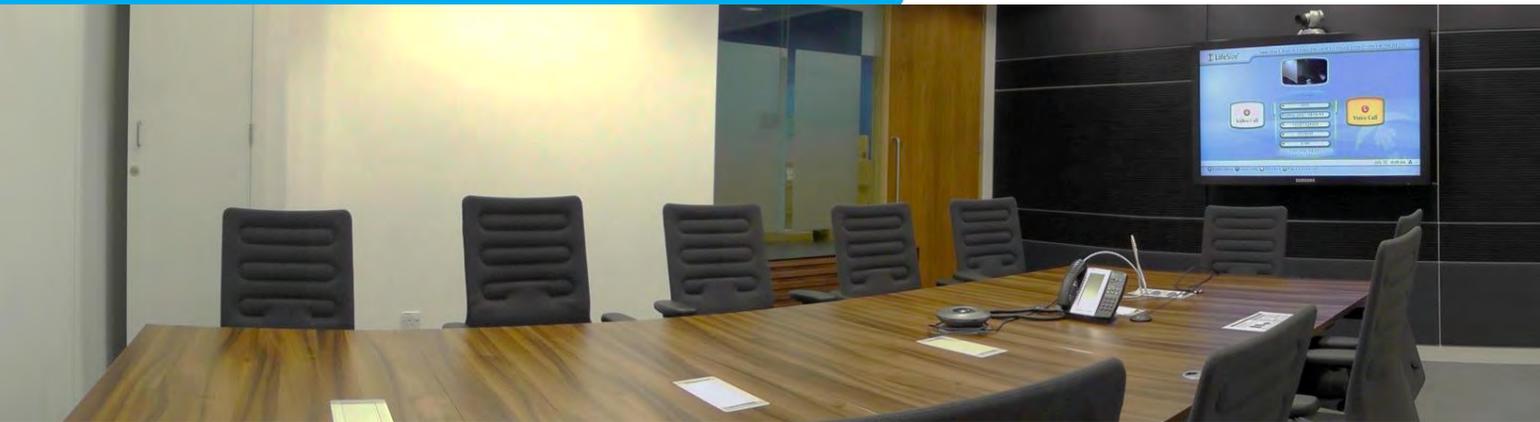
"We needed to give National Grid the ability to treat the building's physical and IT infrastructure as a service"



IEEE 802.1X Protocol

This port based network access control protocol provides a sophisticated authentication mechanism to devices wishing to connect the network.





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Resilient communications

National Grid’s communications infrastructure is critical to the safe management of the UK’s gas and electricity network. “We needed to make sure that the new communication system had a solid business continuity backup.” Kennerdell points out. Abtec recommended a virtualised Mitel communications system. “We’ve used the Mitel system in virtualised environments many times before, we trust it. It works.”



The Mitel system was installed in a virtualised server environment using VMware’s vSphere application. Abtec’s virtualisation engineers created a backup instance of the communications system which mirrored the original, in real time. “The benefit of running this in a virtualised environment is that it offers business continuity. Should the original fail, the backup instance springs into action straight away, which means no loss of communication” adds Kennerdell.



The Mitel system supported National Grid’s Smart Workspace policy. Mitel’s ‘Hot Desking’ feature enables employees to keep their extension number, and calling features whichever desk they are working from in the building.



“This recommendation provided operational cost savings”

Increased Collaboration

Much of the Alliance’s resources are spent managing large power transmission engineering projects. These projects involve employees and agencies from around the UK. National Grid was keen to promote the use of high definition video conferencing to increase collaboration amongst the Alliance teams. Abtec recommended the LifeSize HD video conferencing units. These utilise the building’s IP and ISDN network enabling up to four remote parties to dial into a conference. “We were going to install dedicated ISDN channels for our six video conferencing rooms until Phil pointed out that we could use the building’s IP network and ISDN30 channels. This recommendation provided operational cost savings.” says the lead IT project manager, Electricity Alliance West.



The Alliance partners book the video conferencing rooms, and other meeting rooms using the Condeco room booking software. This browser based software enables employees to manage the booking of rooms without a facilities management team, again saving cost. Details of room availability are accessed from a secure website hosted by Condeco. This integrates with an attractive touchscreen device on the door of each meeting room. Attaching those devices to the doors required Abtec’s engineers to run network cabling through a special door hinge to the unit.



Abtec provided:

- Virtualised Mitel communications system
- ISDN30 channels
- Managed Cisco LAN and WLAN infrastructure
- Cisco Firewalls, switches, NAC and wireless access points
- Secure VLAN technology
- LifeSize HD Video Conferencing
- Condeco meeting room booking system complete
- VMware vSphere
- Abtec Network Monitor
- Project management and training
- Maintenance and support
- Reporting

The Results

The project was delivered on time ready for the first phase of moves in July 2012. The Alliance partners now work in a building that supports National Grid's Smart Workspace policy.

"Abtec has enabled us to share our resources amongst our Alliance partners securely. We've now got an IT foundation that is flexible enough to respond to our organisation's demands and changes." states the lead IT project manager, Electricity Alliance West.

"We've got state of the art technology that helps us increase our productivity, improves communication, and supports our Smart Workspace policies." he adds.

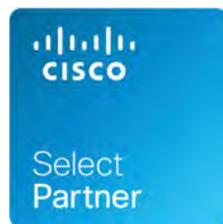
National Grid knew that it would take an organisation with innovative technology skills and client focus to deliver this project successfully. "Abtec were selected because they displayed the ability to manage this project from end to end. They submitted a technical design that was both innovative and good value. The flexibility displayed by the Abtec project management team was instrumental in getting this project completed on time. They were up against very tight deadlines, and managed the project confidently. The team's commitment and dedication was apparent throughout the project, from installation to training and the on-going support of the services. One team member even supplied his band's music for the Mitel system's music on hold. Now that's great service!", said lead IT project manager, Electricity Alliance West.

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About Abtec Network Systems

From its head office in Leicestershire Abtec Network Systems Ltd helps UK businesses get more from their IT budget. The company has over 22 years of experience in helping businesses cut their operating costs and achieving their organisation's goals. It is one of a handful of Authorised Partners of BT, one of two Strategic Partners of Virgin Media Business and recently became the only O2 wholesale partner in the East Midlands.

Abtec's partnerships in this project include:



For more information about Abtec ring 01858 438 500 or visit www.abtecnet.com