

Making Connections at Bury Metropolitan Borough Council

PowerDsine Power over Ethernet Midspans bridge the gap between existing and new network infrastructure for VoIP deployment

The Challenge

To enable a large, geographically dispersed council to upgrade its network to benefit from IP telephony powered over the Ethernet, without needing to rip and replace existing Cisco switch infrastructure.

The Business Value

To enable the council to benefit from reduced costs and greater flexibility when installing IP telephones throughout the borough.

The Solution

Existing Cisco switches were used with Avaya IP telephones. The Avaya phones are powered via PowerDsine Power over Ethernet (PoE) Midspans, which negate the need to replace switches. By using Midspan PoE injectors, the Council can prolong the life of its existing network infrastructure, while still being able to upgrade to PoE and benefit from a wide range of IP Communications technologies now and in the future.



PowerDsine 6012, 6024
Power over Ethernet Midspans

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Without the PowerDsine 6024 and 6012 Midspans we would have had to use power blocks for every phone. At £50 per power block and with 2,500 VoIP phones deployed across the authority this would have cost around £125,000 to power the phones over the Ethernet. Using PowerDsine Midspan ports, which retail at £658 for a 24 port Midspan powering 24 phones, the cost saving is significant.

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Mr. Kevin Amos

Technical Support Manager, Bury Council

THE CHALLENGE

Kevin Amos, Technical Support Manager at Bury Council is responsible for the network email and main servers spread over multiple sites. “We haven’t just got one or two council buildings, Bury’s offices are scattered all over the Borough. We have installed the Voice over IP phone systems in over 100 buildings.”

For example, the Technical Support Department regularly receives calls from council departments to let them know that they are relocating their team to a house in an area with little existing infrastructure.

“Even though we have a centralised IT section, when the communications network was originally installed in the buildings some departments didn’t install enough structured cabling. So we had to keep calling in Absolute Network Solutions to install extra cabling every time council employees moved offices.” said Kevin Amos.

EXISTING INFRASTRUCTURE

“Prior to the decision to move over to IP Telephony, Bury County Council had a variety of switches including 3Com, and HP etc,” explains Andy Thetford, network manager at Absolute Network Solutions, a reseller of PowerDsine PoE Midspans. “Nowadays everything is running over a managed Cisco switch solution, but their switches didn’t support Power over Ethernet. By putting PowerDsine Midspan hubs into the network, we were able to upgrade to Power over Ethernet without having to change the Cisco switches.”

PoE is a technology allowing electrical power to be carried together with data over standard Ethernet cables, rather than by separate power cords. This reduces installation costs as power can be supplied to the VoIP phones over the existing cabling infrastructure, rather than running in miles of fresh cabling. PoE also eliminates the need for the installation of AC power outlets near the phones, adding to the cost savings.

THE MOVE TO CONVERGENCE

The Council originally looked into going over to IP telephony because their BT Featurenet system was becoming more and more expensive: “We were tied to a fixed call commitment on each telephone extension and we’ve got literally thousands of extensions within the authority.” reports Amos. The Council began looking for a way to upgrade and



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enhance its communications network, while tightly controlling costs. The Council worked with a number of system integrators, vendors and specialist networking resellers to achieve the optimum solution for their needs.

In the past people have been concerned about the downtime risks of running voice communications over the IP network in case the network goes down, putting both voice and data services out of action. To achieve high availability in IP Telephony, with minimum downtime, PoE Midspans can be backed up by a single Uninterruptible Power Supply (UPS) unit in the comms cabinet, to ensure continuous operation of the entire IP telephony network in the event of a power outage.

Bury Council chose Avaya VoIP phones powered by PowerDsine Power over Ethernet Midspans as their ideal solution. A mixture of 24-port PoE Midspans and 12-port PoE Midspans were used. Systems integrator Sabio worked with Bury Council and Avaya to install the VoIP phone system with Power over Ethernet Midspans.

PROTECTING EXISTING NETWORK INVESTMENT – THE BEST OF BOTH WORLDS

Bury Metropolitan Borough County Council had upgraded its network infrastructure only 12 months prior to moving over to VoIP, therefore they had new Cisco switches installed in the multiple sites.

The council considered using new Cisco's PoE switches to power the Avaya VoIP phone system, however encountered two major obstacles: first, Cisco's switches offered a proprietary non-standard PoE scheme which could not be used to power 802.3af standard terminals, such as the Avaya ones. Second, the upgrade to new PoE switches required significant unnecessary investment of money and efforts. Bury was able to upgrade its network to PoE without the need to rip and replace switches, while protecting its existing investment in the Cisco network infrastructure. "The Cisco switches will now not need to be replaced for another five years and the structured cabling should last a lot longer", reports Kevin Amos.

"Without the PowerDsine 6024 and 6012 Midspans we would have had to use power blocks for every phone. At £50 per power block and with 2,500 VoIP phones deployed across the authority this would have cost around £125,000 to power the phones over the Ethernet. Using PowerDsine Midspan ports, which retail at £658 for a 24 port Midspan powering 24 phones, the cost saving is significant."

Because of the distributed buildings, Bury presented a unique challenge for network upgrades. "It was difficult to find a reference site which exactly mirrored our situation" reports Kevin Amos. The diversification of the sites and the variation in number of IP Phones installed required a scalable solution with different PoE Midspan products. To address it, 24 and 12 port Midspan were used to power the IP Phones in the main council buildings whereas simple power blocks were installed in smaller Council buildings where only two or three handsets were installed.

Measurable Benefits of Using Power over Ethernet to power the VoIP phones:

Kevin Amos explains that the adoption of PoE to power VoIP phones has not only contributed to considerable installation cost savings at the Council, but also improved the working environment for Council employees: "Because the PowerDsine Midspan is sited in the comms cabinet and all the power for the phones supplied over the data cables, this means that there is less cabling round council employees' desks so it's neater and safer." He says.

FUTURE PLANS

Currently Bury Metropolitan Borough Council has deployed 2,500 VoIP phones, with more VoIP installations planned as more buildings are brought into Council control. As more VoIP end points are deployed, more PoE power injectors and Midspans will be required. There are also plans to provide Councillors and home workers with a secure work VoIP handset working on a USB connection to their PC over a broadband network – calls to a personal number on the central Avaya switch will be seamlessly directed to the home-based Councillor or employee.

BACKGROUND

Bury Metropolitan Borough Council is situated on the outskirts of Manchester, between Bolton and Rochdale. Some of the Council offices are situated in non networked semi-rural areas, which presented particular problems when the time came to upgrade the communications network. In all, the Council Technical Support Team installs and maintains IT and communications infrastructure to more than one hundred network buildings. When the Council took the decision to upgrade its telephone system, this had to take place authority wide, stretching between North Manchester and Rossendale.

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