Local Authority 'Green ICT' Policy Sets New Standard

London Borough uses Cisco's Borderless Networks EnergyWise service to control energy costs and cut carbon emissions.

EXECUTIVE SUMMARY

Customer Name: London Borough of Hillingdon

Industry: Public Sector

Location: UK

Number of employees: 3,000

Challenge
· Improve efficiency and control operational costs
· Meet official local authority carbon reduction targets
· Safeguard local services as public sector budgets are squeezed

Solution
· Cisco EnergyWise for IP phones, wireless access points and other PoE devices
· Cisco Orchestrator extends management and control of energy consumption to PCs and laptops

Results
· Hillingdon on target to cut electricity bill by £60,000 per year
· Initial EnergyWise carbon reduction of 44 tonnes set to double
· Granular visibility, management and control of energy consumption per device and user
· Emerging Best Practice model sets example for other local authorities

Challenge

The London Borough of Hillingdon is London's second-largest local authority by area, with a population of around 250,000. Situated on the western edge of the capital, the borough includes the busy international hub of Heathrow Airport. It employs some 3,000 people, two-thirds of them working at the Civic Center HQ in Uxbridge. The rest are spread over a diverse estate of more than 100 buildings.

The borough faces mounting cost pressures as the UK government imposes steep public spending cuts, including a 25 percent reduction in the budgets of most government departments, and a council tax freeze. The UK Carbon Reduction Commitment (CRC) Energy Efficiency Scheme also obliges larger local authorities to set annual emissions reduction targets, and to buy carbon allowances from April 2011.

The local authority updated its Sustainable Community Strategy in 2008, focusing on community welfare, the environment and the local economy. It strives to embed green principles in its service delivery and operational profile, including Information and Communication Technology (ICT) power usage, and set an example of environmental and social responsibility for local organizations and other London authorities.

Hillingdon has positioned itself strongly to implement new and innovative solutions over the last decade through its investment in a Cisco infrastructure. Based on Cisco's Borderless Network Architecture, the system has provided the resilient and flexible foundation that Hillingdon needed to cost-effectively introduce new services across the borough as it has required them.

In 2002, Hillingdon was able to introduce Cisco IP Telephony to cut operational costs and increase productivity. This also brought sustainability benefits by enabling home working—an option since taken up by around 900 employees. In 2006 Hillingdon launched a data center virtualization project, using VMWare, which has now reached more than 50 percent of the server estate.

The next step saw Hillingdon became one of the first UK public organizations to adopt the Cisco EnergyWise architecture to measure, report and regulate energy usage in ICT devices, with plans to extend control of power usage into other areas of high demand, such as building systems. It sought complete oversight and centralized management control of power usage over the borough's borderless network.

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Steve Palmer
CIO
London Borough of Hillingdon

Network Solution

Hillingdon's ICT department made an early start on measuring electricity consumption in its network infrastructure by using a management application on its Uninterruptible Power Supply (UPS) network. However, the resultant metrics lacked the granularity required to understand how and when ICT end-devices use electricity, and to exert full, automated control over networked energy policies.

Hillingdon's high-level ICT power measurement system made no distinction between the energy used by a switch and the devices attached to it. Bob McKay, the borough's Telecoms Manager, says, "What the system won't tell us is what we're doing on the desk-top, and that's where we look to Cisco EnergyWise to help us."

Cisco EnergyWise is the foundation for an evolving set of integrated energy-saving solutions, using the network as an enabler for cost and carbon reduction. It provides centralized network control of IP phones, wireless access points and any other PoE device. At Hillingdon, this part of the solution now extends to 3,000 IP phones, 50 Wireless Access Points, seven Cisco IP surveillance cameras, and 11 CCTV cameras.

The borough is now installing Cisco Orchestrator to include PCs and laptops in the scope of its ICT energy monitoring and management. The technology combines centralized management of all PoE devices with a versatile policy engine, which will simplify implementation of flexible, responsive energy policies across the business.

The ICT team first signed up for a trial of Cisco EnergyWise when the new architecture was launched in 2009. Compatible Catalyst Series Switches were upgraded to enable Energywise by a free software download. CiscoWorks was used to set policies throughout the network, including some older switches that could not be managed directly by EnergyWise. These older components will be progressively phased out and replaced in the borough's ongoing technology refresh cycle.

"One advantage of EnergyWise is that it does not impose a rigid policy covering all endpoints," notes Nick McCarthy, Network Communications Support Manager. "You can vary policy according to local business needs. If someone needs a camera switched on 24/7, say, they can have it; if they've got a business case that only needs a device switched on from 9-5pm, they can have that, too."

The technology provides the team with centralized measurement, monitoring and management of ICT power usage. Any requests for policy variations – for example, from the accounts team during busy periods of the financial year – are routed through the IT service desk and implemented over a simple software interface.

Results

In most organizations, public or private, phones, computers and other desktop devices have traditionally been left on all night. Each device uses only a small amount of power; yet together, they add significantly to the energy bill.

With Cisco EnergyWise, Hillingdon calculates financial savings to date on its £3 million annual utilities bill at £20,000, with a carbon emissions reduction of 44 tonnes, and ROI was achieved in six months. With Cisco Orchestrator, the cost saving is expected to treble to £60,000. In this way, Cisco power-saving technologies help underpin both the authority's sustainability objectives and its drive to control costs.

For Steve Palmer, Hillingdon's CIO, the value of EnergyWise and Cisco's integrated energy-saving roadmap is in the move from a technology focus to a strategic tool. It is already enhancing the borough's reputation for environmental leadership among local authorities and helping position the authority for effective compliance with new legal requirements to reduce carbon emissions. And it will, in due course, enable the borough to gain a single, unified view of its energy consumption at any one time.

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Palmer has been impressed by the flexibility of EnergyWise and its adaptability to Hillingdon's network. Having developed over time to meet changing business priorities, large ICT networks include legacy technologies and tend to be "hybrid" in architectural terms. Yet Palmer sees Cisco's energy-saving architecture as having huge potential to support public sector objectives and strengthen the role of ICT.

"We know we can take this to a strategic level," he comments. "So far, we've achieved some hard cash savings, which always grab attention. Going forward, I want to make sure we've applied the technology as broadly as we can in our own area. And then, once we're comfortable with it, we want to use it as an enabler for sustainability benefits and cost savings across all our services and facilities."

Hillingdon's CIO believes Cisco EnergyWise has helped converge traditional imperatives to control costs and improve efficiency with the importance of the environmental agenda and the new demands of the CRC scheme, which will impose penalties on those exceeding their targets and offer rebates to those who undershoot them. Cost and efficiency measures can thus serve sustainability goals, and vice versa.

Next Steps

The next key step for the ICT team will be to extend the reach of Energywise into the borough's building systems. While it is too early to make firm predictions, Steve Palmer would "not be surprised" to see current projections for energy savings more than doubled again once it is implemented.

For more information on Cisco EnergyWise please go here

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