

“It’s our technology, we make it, we sell it, and we have to show that it works in terms of our own deployment. And like any other business, we also have to look for hard cost savings and productivity improvements.”

Kevin O’ Donnell
Internet Business Solutions Group Manager
Cisco Systems

Summary

In 2000, Cisco moved its offices to IP telephony. The company wanted to be a leader not only in the development of new IP products, but also in their use. In addition, it hoped to realise hard cost savings and optimise its workforce. BT’s close relationship with Cisco’s sales team and its ability to help deliver a solid return on investment ensured it was selected as the partner to design and implement the infrastructure at the Bedfont Lakes green fields site. This site had to be linked to Cisco’s existing Reading campus via a Wide Area Network.

A total of 3,000 handsets were installed across the multiple buildings and multiple campuses. It was the world’s largest deployment of IP telephony technology – not using PABXs as a gateway – in the world at that time. After five months of planning, BT worked with Cisco engineers to install the infrastructure in just four weeks.

In association with



IP telephony saves Cisco £2.4m every year

The implementation of IP telephony saw Cisco achieve a 126% return on investment by the end of year one. It also delivered a one-off saving of £604k – and an annual saving of £2.4m – through reduced network, property and call costs, and converged applications .

Background

Leading the field in product development and usage

No other company is more involved with making the internet work than Cisco Systems. The company’s Internet Protocol (IP) networking products are the foundation of most corporate, education and government networks around the world. Its equipment enables secure and reliable internet access, and supports the transmission of data, voice and video within buildings, across campuses and around the world. And it is consistently at the forefront of IP technology and systems innovations.

This led Cisco, in 2000, to move its offices to IP telephony. The company wanted to be a leader not only in the development of new IP products, but also in their use. At the time Cisco made its decision, IP telephony was still a ‘next-generation’ technology that was unproven and risky. Decision makers were disinclined to invest in a technology that was, effectively, still in its incubation phase, and for which the bulk of software applications still had to be developed.

Challenge

Building a portfolio delivering savings and productivity improvements

But Cisco was confident the technology would soon form a major part of its internet business solutions portfolio. And three years down the line its conviction has been proved. The IP telephony market has grown exponentially as broadband and unified communications trends have grown in prevalence.

In fact, technology analyst IDC predicts that global revenues for IP telephony will reach £14.9bn by 2005, and reports that, currently, European IP telephony revenues alone total £2.5bn – double the value of the worldwide market in 2001.

Cisco’s decision to rollout IP telephony to its Bedfont Lakes offices, near Heathrow, was based on more than a sensitivity to emerging trends, though. The company is, after all, a business. It had to prove the business benefits the IP telephony deployment would bring, beyond simply giving it a products showcase.

Says Kevin O’ Donnell, Internet Business Solutions Group Manager, Cisco Systems: “It’s our technology, we make it, we sell it, and we have to show that it works in terms of our own deployment. And like any other business, we also have to look for hard cost savings and productivity improvements.”

Gaining a valuable sales tool by proving the business benefits

Uniquely, by building a case for IP telephony at its Bedfont Lakes green fields site, Cisco was also developing a valuable sales tool that would help it win new business. This further compelled the company to analyse closely the impact the implementation would have. The subsequent study identified various areas that would bring a return on investment (RoI).

Some of these areas would deliver the sought-after hard cost savings, some would facilitate quantifiable productivity increases, while the balance would realise non-financial benefits, such as improved customer satisfaction.

All that remained was to find a partner that would best help it to realise RoI. BT already worked closely with Cisco's sales team. It had done some smaller projects for the company at its Tower 42 offices in London, and at a green fields site in Manchester. The IP telephony deployment, however, posed a far greater challenge.

"It was new technology at the time," says Jim O'Donnell, Manager, IT Service Delivery, Cisco Systems EMEA. "We were moving from a single campus environment to a multi-building, multi-campus environment. This was front-line technology for everyone."

Solution

BT plans world's largest IP telephony deployment

BT was given the task of planning and installing the IP telephony system at Bedfont Lakes, that involved 1,600 handsets and 1,200 employees. A further 1,400 handsets had to be installed in two other buildings at its Reading site and linked to the Bedfont Lakes site via a Wide Area Network (WAN).

It was the world's single largest deployment of IP telephony technology – that did not use PABXs as a gateway – at that time. After five months of planning, BT worked with Cisco engineers to install the infrastructure in just four weeks.

"Despite this being an extremely complex installation, BT's planning and delivery helped ensure IP telephony from day one," says Jim O'Donnell.

Results

126% return on investment within 12 months

Cisco now had the network architecture of the future – a system that could deliver hard cost savings by converging separate voice and data networks into a single network, reducing call costs, and using space more efficiently and flexibly. In terms of payback period, Cisco recovered its initial £700,000 investment within 10 months, and by the end of year one had realised a 126% RoI.

Single network saves £317k up front/£400k pa

IP telephony enabled Cisco to utilise its Local Area Network (LAN) for both voice and data. By not having to install and operate separate networks, Cisco realised very tangible cost benefits.

On cabling alone, the company saved a one-off cost at Bedfont Lakes of £317K by reducing the number of cabling ports to each desk from between four and six, to between two and three.

Cisco has also realised an annual recurring saving of around £400k. Around £287k of this comes from no longer having to worry about moves, adds and changes (MACs).

Maintenance costs have been cut by £38k per year through having only one network to service, while reducing the number of people required to operate the system from 12 to eight has meant an annual £76k saving on staff costs.

£1.02m pa savings from reduced property costs

The way Cisco had always planned its management and use of office space was radically altered by the implementation of IP telephony, and ultimately resulted in the company achieving a recurring annual saving of £1.02m.

When planning an installation, Cisco's Facilities Management (FM) typically targeted occupancy at 90%. Consider an office with just 12 desks. FM would not normally consider a plan based on 12 people occupying 12 desks. Rather they would have a couple of desks spare to accommodate, for example, potential MACs. The surplus desks are known as 'swing space' or 'churn space'.

With IP telephony and a wireless LAN, Cisco could opt for 100% occupancy because it no longer needed to allow for MACs, and so didn't have to accommodate swing space.

Groups can be allocated areas and the occupancy managed locally, without the necessary Facilities Management software to track individuals to particular desks. “We don’t associate individuals with desks anymore,” says Kevin O’Donnell.

A capital expenditure saving of £287k, only applicable during the first year of the move, was also realised. This was largely attributable to a reassessment of furniture requirements.

Says Kevin O’Donnell: “With, for example, fewer ports to each desk, we no longer needed the same hard, strong desks and furniture, or some of the partitions. We could buy new lightweight furniture that ultimately reduced the cost of fitting out the buildings.”

In Cisco’s case, the value of the property savings realised by the implementation of IP telephony cannot be underestimated.

If the company had been unable to realise these savings, the payback period would have jumped from 10 to 30 months, and the RoI at the end of year one would only have been 50%, instead of 126%.

£311k saved annually by reducing call costs

Through extension portability, audio conferencing and unified messaging, Cisco has reduced its annual telephony bill by £311k.

Extension portability is saving Bedfont Lakes £171k by allowing home workers with asymmetric digital subscriber line (ADSL) or integrated services digital network (ISDN) connections to receive calls on their DDI desk phone number via the Cisco hardware Virtual Private Network.

The audio conferencing saving of £124k a year comes from addressing the replacement of a portion of existing outsourced audio conferences with the Cisco Conference Connection product. Unified Messaging – which provides a universal mailbox for each user, containing voice messages, e-mails and faxes – is saving £16k a year.

Converged applications boost productivity/save £698k+ yearly

By transforming its underlying systems and infrastructure from voice-only to converged, Cisco has catered for straightforward and cost-effective integration of new, converged end-user applications. This, in turn, enables increased employee productivity. However, at the time of implementation, the anticipated productivity benefits of these applications, like Unified Messaging and Personal Assistant, were hard to quantify. Benefit models were not available then because the applications simply did not exist. Nevertheless, Cisco believed it would be able to realise productivity benefits valued at more than £698k every year, some £374k of this coming from the Computer Telephony Integration (CTI) screen dial application, and £301k from the CTI screen pop application.

Blueprint for deployment of IP telephony across 96 EMEA sites

Using Bedfont Lakes as a blueprint, Cisco has now implemented IP telephony across 96 offices throughout Europe, the Middle East and Africa.

“We have taken the concept and expanded it on a global basis,” says Jim O’Donnell. “What we started with BT was the catalyst for our partnership environments. We are following the pattern elsewhere in the world.”

“IP telephony really does make a difference, not just from an RoI perspective, but also in terms of helping employees to be more effective,” says Kevin O’Donnell. “It impacts on employee productivity and on customer care.”

Technical information

BT brings IP telephony to the desktop over converged network

BT first planned and then assisted in the implementation of Cisco’s IP telephony system. As well as the 1,600 Cisco 7960 IP phones at the three buildings at Bedfont Lakes, BT installed the equipment in Cisco’s two Reading buildings – a total installation of 3,000 handsets.

The design brought IP telephony to the desktop over a single network infrastructure. The scalable system was built around Cisco's Call Manager product, using IP telephone handsets that form part of Cisco's AVVID (Architecture for Voice, Video and Integrated Data) range. Call Manager software extends telephony features and capabilities to packet telephony network devices such as:

- IP phones
- Media processing devices
- Voice-over-IP gateways
- Multimedia applications

Additional data, voice and video services interact with the IP telephony through Call Manager's open Application Programming Interfaces.

These services include:

- Unified Messaging
- Multimedia conferencing
- Collaborative contact centres
- Interactive multimedia response systems

The scalability of Call Manager clustering can take the installation from 10,000 devices up to 30,000 IP phones per cluster. By linking multiple clusters, capacity can be increased to a million users across more than 100 sites. Call admission control ensures voice quality of service is controlled across constricted WAN links. It automatically diverts calls to alternate PSTN routes when WAN bandwidth is not available. Personal Assistant helps mobile workers manage communications and increase productivity with personal call rules, speech recognition and productivity services.

"IP telephony really does make a difference, not just from an ROI perspective, but also in terms of helping employees to be more effective. It impacts on employee productivity and on customer care."

Kevin O'Donnell
Internet Business Solutions Group Manager
Cisco Systems



Offices worldwide

The telecommunications services described in this publication are subject to availability and may be modified from time to time. Services and equipment are provided subject to British Telecommunications plc's respective standard conditions of contract. Nothing in this publication forms any sort of any contract. This case study is subject to copyright. Copying, reproducing or otherwise exploiting any part of this case study is strictly prohibited.

© British Telecommunications plc 2004
Registered Office: 81 Newgate Street, London EC1A 7AJ. Registered in England and Wales no. 1800000.

Printed on paper which meets international environmental standards