



Customer Success Story

A Unique Offering from Cable & Wireless gives Cisco Systems in Europe, The Middle East and Africa a Cost-effective, Business-critical Platform

EXECUTIVE SUMMARY

CUSTOMER NAME

- Cisco Systems, Inc. – Europe and Emerging Markets

INDUSTRY

- Manufacturing

BUSINESS CHALLENGES

- Design, implement and manage a converged, next-generation network for Cisco in Europe, the Middle East and Africa, leveraging the unique strengths and skills of Cable & Wireless to offer Cisco significant cost savings and new capabilities

SOLUTION

- MPLS IP VPN built on end-to-end Cisco solutions connecting 80 Cisco sites and 30 partner sites in 32 countries
- Cable & Wireless was able to meet Cisco's requirement for managed QoS, multicast capabilities and EIGRP

BUSINESS RESULTS

- Return on Investment within one year of full operation
- Significant savings on capital and operational expenditure, including a reduction in annual telephone call charges by more than 50 per cent after implementation of least cost routing and tail-end hop-off
- Converged IP network with QoS and , multicast and EIGRP is reducing costs and allowing Cisco to explore more fully the potential of new technologies and multimedia applications

BUSINESS CHALLENGE

Cisco Systems is the worldwide leader in networking for the Internet. The company is also a pioneer in using the Internet to increase its operational efficiency, enhance customer services and reduce costs. Europe and emerging markets in the Middle East and Africa play a central role in its success, contributing nearly 28 per cent of total net sales in fiscal year 2005.

In 2002, Cisco decided to replace the hub and spoke network throughout its European and emerging markets operations. Having successfully implemented some voice and video traffic over the hub and spoke infrastructure, the company wanted to maximise the benefits of a converged environment. To do so, it needed a topology that was simpler and more cost effective to operate. Quality of Service (QoS) and multicast capabilities would be essential. From a conceptual point of view, an IP VPN seemed to be the most appropriate solution.

The invitation to tender asked service providers to bid on three different scenarios: extending the existing hub and spoke design, providing an IP VPN, and offering the optimal solution based on their own network. Cable & Wireless, a leading telecommunications company, was one of 14 service providers to respond to the tender. It used its VPN and QoS capabilities, geographical reach, and in-depth knowledge of Cisco solutions to deliver the winning scenario.

SOLUTION

Cable & Wireless proposed a Multi-Protocol Label Switching (MPLS) IP VPN connecting 93 sites – 71 Cisco sites and 22 partner sites – in 37 countries throughout Europe, the Middle East and Africa. Based exclusively on Cisco solutions, the IP VPN offered embedded QoS and multicast capabilities managed by Cable & Wireless. Both functions were essential to the Cisco business model of running a fully converged infrastructure and to its requirement for an early Return on Investment (ROI).

“The sheer volume of real-time applications that would need to travel across the network meant that a clear channel solution – in which we provided bandwidth between the sites and Cisco managed QoS – would not fly,” explains Brian Copeman, the Account Director for Cisco at Cable & Wireless. “We concluded

that an MPLS IP VPN with embedded QoS would be ideal because Cable & Wireless would be able to manage it on Cisco's behalf, giving them a much stronger ROI."

As a long-standing Cisco Powered Network member, Cable & Wireless already had considerable expertise that was relevant to the bid, having deployed an end-to-end Cisco-based IP VPN throughout Europe.

The Cisco account team at Cable & Wireless put a great deal of effort into understanding their client's needs from a business, as well as a technical point of view. A flexible and imaginative approach to the contracting process was equally important, together with the company's global presence and international experience. Cable & Wireless was also able to meet Cisco's demand for extremely high service levels, including 99.99 per cent availability at core European and engineering sites and 99.95 per cent at many other locations.

"We were able to show Cisco a vision that matched their own, in terms of IP and convergence. At the same time, we could also demonstrate the technical superiority of our engineers," says Brian Copeman. For example, it emerged during the tender process that the network would have to support the Enhanced Interior Gateway Routing Protocol (EIGRP) which Cisco uses throughout its intranet. Cable & Wireless was able to ensure that the IP VPN supported EIGRP routing between provider and customer edge routers, instead of the more usual Multiprotocol BGP (Border Gateway Protocol) routing protocol, thereby avoiding any technical difficulties.

"We needed a methodology for running multiservice solutions across our network more efficiently. At the time Cable & Wireless was the only company that could formulate a strategy for using an IP VPN in this way, and the only one that could address our immediate needs in terms of QoS, multicast and EIGRP."

—Michael Bollen, IT Manager, European and Emerging Markets, Cisco Systems.

Cable & Wireless offered five Classes of Service that would enable Cisco to assign different requirements to different services, with the highest priority going to voice and video traffic. This ensured that Cisco could continue to explore the potential of converged applications such as IP Videoconferencing and Unified Communications. Multicast, the ability to very efficiently transmit large data files to a select group of network users, would support high-bandwidth applications such as e-learning and video streaming.

"We needed a methodology for running multiservice solutions across our network more efficiently," explains Michael Bollen, Cisco IT Manager, European and Emerging Markets. "At the time Cable & Wireless was the only company that could formulate a strategy for using an IP VPN in this way, and the only one that could address our immediate needs in terms of QoS, multicast and EIGRP."

Cisco awarded the contract to Cable & Wireless in 2002 and the two companies began implementing the new network the following year, completing the process in 2004. Partnership was especially important because of the innovative nature of many of the technologies being deployed.

Close collaboration was also the key to resolving the issues that inevitably arose during a long and complex implementation. The importance of strong partner management became clear in areas such as the Middle East, for example, where Cable & Wireless needed assistance to deploy the local infrastructure.

“We were working at the sharp end of engineering because Cisco is always pushing the edge of what it’s possible to do,” says Brian Copeman. “In spite of the many challenges involved, it was an effective partnership during which both sides learned a lot. We’ve grown together.”

BUSINESS RESULTS

Adopting a simpler network topology has brought significant financial and operational benefits to Cisco. The number of network devices that Cisco has to manage, for example, has been reduced by approximately 50 per cent. Capacity planning used to be a time-consuming and demanding task, with average increases in bandwidth requirements of 300 per cent each year. Cable & Wireless is now responsible for managing all such requirements within its own public, packet-based network.

“One of the critical outcomes of centralising many applications, and having a class of service-enabled network, is that we will achieve payback within a year. That’s a very, very positive ROI.”

—Michael Bollen, IT Manager, European and Emerging Markets, Cisco Systems.

Freedom from bandwidth constraints has enabled Cisco to introduce a more centralised approach to deploying applications. Instead of installing individual servers for Cisco Unified CallManager in some 70 offices, for example, it was able to deploy the call processing solution in four big clusters located in Amsterdam, Dubai, Johannesburg and London. Managed remotely, these clusters are far less expensive than deploying the application locally at each site and much more cost-effective to run.

“One of the critical outcomes of centralising many applications, and having a Class of Service-enabled network, is that we will achieve payback within a year. That’s a very, very positive ROI,” says Michael Bollen.

The ability to apply Classes of Service to different types of traffic has removed the problems associated with competing bandwidth demands on a business-critical enterprise network. Traffic is tagged going into the Cable & Wireless cloud and traverses the service provider’s network according to these policies.

The IP VPN has brought Cisco closer to its strategic home, both in terms of its technology platform and the applications it is now able to run. In Europe and the emerging markets, for example, Cisco now runs virtually all its voice and video traffic over its IP VPN. This has almost eliminated long-distance call charges, reducing the company’s annual telephone bills by more than 50 per cent on call charges alone.

Running voice traffic over the IP VPN also means that Cisco needs fewer telecom assets. In the UK, where a 30-channel PRI (Primary Rate Interface) line for incoming calls costs around £4,000 per year, Cisco is now using only 10 PRIs instead of 60 – an annual saving of £200,000 in just one location.

“Cisco is already a highly e-enabled organisation. Our goals for the next two years are to continue enhancing the intelligent network behind that e-enablement and to help support Cisco’s growth in its emerging markets.”

—Brian Copeman, Account Director for Cisco, Cable & Wireless.

The longer-term financial benefits of this deployment are likely to be substantial – and even higher when they include the advantages that are harder to quantify, such as productivity gains from using a converged infrastructure. As importantly, the MPLS IP VPN offers the scalable and highly available platform that is essential to an organisation like Cisco Systems which generates more than 90 per cent of its revenue over the Internet. In addition, the infrastructure provides Cisco with a test environment and showcase for its own new technologies and applications.

Cisco renewed this contract with Cable & Wireless for a two-year period in November 2005. “Cisco is already a highly e-enabled organisation. Our goals for the next two years are to continue enhancing the intelligent network behind that e-enablement and to help support Cisco’s growth in its emerging markets,” says Brian Copeman.

TECHNOLOGY BLUEPRINT

A single MPLS IP VPN using end-to-end Cisco equipment replaced the company’s hub and spoke network based on a mixture of ATM (Asynchronous Transfer Mode) and leased lines. In addition to cost savings and efficiency gains, MPLS enables multicasting which, in turn, allows Cisco Systems to deploy bandwidth-hungry applications such as video broadcast delivery and videoconferencing to employees’ desktops.

Cisco Systems in Europe and the Emerging Markets of the Middle East and Africa was the first customer in the world to deploy network multicasting using the Cable & Wireless IP VPN QoS service. Cable & Wireless was also able to offer Cisco five Classes of Service to differentiate traffic on the network, ensuring that time-sensitive traffic such as voice and video receives priority on the converged infrastructure.

In its core, Cable & Wireless has deployed Cisco 12000 Series Routers (models 12410 and 12008), designed to offer service providers an ultra high-performance platform for IP/MPLS networks. Cisco Catalyst 3750 Series Switches provide Ethernet switching between the core and the provider edge. Still in the Cable & Wireless core, Cisco 7505 Routers function as route reflectors and multicast rendezvous points.

Cisco 7505 Routers are also deployed at the provider edge, together with Cisco 10008 Routers which were designed specifically for carriers delivering IP/MPLS services to broadband and private line customers. The range of devices being used at the customer edge includes:

- Cisco 7603 Routers with IP/MPLS features supporting a range of MAN/WAN applications
- Cisco 7206 VXR Routers, universal services routers for the enterprise or provider edge
- Cisco 3845 Integrated Services Routers for concurrent delivery of voice, data, video, security and wireless services
- Cisco 3745 Multiservice Access Routers offering high levels of service density for branch offices.



Corporate Headquarters

Cisco Systems, Inc.
170 West Tasman Drive
San Jose, CA 95134-1706
USA
www.cisco.com
Tel: 408 526-4000
800 553-NETS (6387)
Fax: 408 526-4100

European Headquarters

Cisco Systems International BV.
Haarlerbergpark
Haarlerbergweg 13-19
1101 CH Amsterdam
The Netherlands
www-europe.cisco.com
Tel: 31 0 20 357 1000
Fax: 31 0 20 357 1100

Americas Headquarters

Cisco Systems, Inc.
170 West Tasman Drive
San Jose, CA 95134-1706
USA
www.cisco.com
Tel: 408 526-7660
Fax: 408 527-0883

Asia Pacific Headquarters

Cisco Systems, Inc.
168 Robinson Road
#28-01 Capital Tower
Singapore 068912
www.cisco.com
Tel: +65 6317 7777
Fax: +65 6317 7799

Cisco Systems has more than 200 offices in the following countries and regions. Addresses, phone numbers, and fax numbers are listed on the **Cisco Website at www.cisco.com/go/offices.**

Argentina • Australia • Austria • Belgium • Brazil • Bulgaria • Canada • Chile • China PRC • Colombia • Costa Rica • Croatia • Cyprus • Czech Republic • Denmark
Dubai, UAE • Finland • France • Germany • Greece • Hong Kong SAR • Hungary • India • Indonesia • Ireland • Israel • Italy • Japan • Korea • Luxembourg • Malaysia
Mexico • The Netherlands • New Zealand • Norway • Peru • Philippines • Poland • Portugal • Puerto Rico • Romania • Russia • Saudi Arabia • Scotland • Singapore
Slovakia • Slovenia • South Africa • Spain • Sweden • Switzerland • Taiwan • Thailand • Turkey • Ukraine • United Kingdom • United States • Venezuela • Vietnam • Zimbabwe

Copyright © 2006 Cisco Systems, Inc. All rights reserved. CCSP, CCVP, the Cisco Square Bridge logo, Follow Me Browsing, and Stack Wise are trademarks of Cisco Systems, inc.; Changing the Way We Work, Live, Play, and Learn, and iQuick Study are service marks of Cisco Systems, Inc.; and Access Registrar, Aironet, ASIST, BPX, Catalyst, CCDA, CCDP, CCIE, CCIP, CCNA, CCNP, Cisco, the Cisco Certified Internetwork Expert logo, Cisco IOS, Cisco Press, Cisco Systems, Cisco Systems Capital, the Cisco Systems logo, Cisco Unity, Empowering the Internet Generation, Enterprise/Solver, EtherChannel, EtherFast, EhterSwitch, Fast Step, FormShare, GigaDrive, GigaStack, HomeLink, Internet Quotient, IOS, IP/TV, iQ Expertise, the iQ logo, iQ Net Readiness Scorecard, LightStream, Linksys, MeetingPlace, MGX, the Networkers logo, Networking Academy, Network Registrar, Packet, PIX, Post-Routing, Pre-Routing, ProConnect, RateMUX, ScriptShare, SlideCast, SMARTnet, StrataView Plus, TeleRouter, The Fastest Way to Increase Your Internet Quotient, and TransPath are registered trademarks of Cisco Systems, Inc. and/or its affiliates in the United States and certain other countries.

All other trademarks mentioned in this document or Website are the property of their respective owners. The use of the word partner does not imply a partnership relationship between Cisco and any other company. (0502R)