

EUROPEAN CARRIER AND CISCO—BUILDING A CONVERGED IP NETWORK FOR MANAGED SERVICES THAT BENEFITS BUSINESS CUSTOMERS

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*Kelly Ahuja, Vice President, Marketing,
Cisco Systems*

One of Cisco's major European customers, the largest telecommunications carrier in its country, continues to thrive in a difficult world economy by employing forward-looking strategies. The network—and the services it enables—is a key source of competitive differentiation for service providers. That is why this major European service provider was reluctant to be identified in this Cisco customer success story. More than two years ago, the carrier's management team recognized the potential opportunities for expanding the business into innovative data services. But evolving their extensive network in a manner that would protect and enhance the company's nationwide traditional voice business presented many challenges. The telecom carrier teamed up with Cisco Systems® to design a new converged IP infrastructure that could offer cost savings to its ongoing operations and generate healthy sources of new revenue for years to come.

The company's new IP core and broadband aggregation architectures have been implemented, and a new era of service offerings has begun with the introduction of a variety of data services based on broadband access. The future promises a steady stream of new IP services, including large-scale voice over IP (VoIP) services that will offer efficiencies—compared to traditional private branch exchange (PBX) solutions—to both commercial and government markets. This deployment represents a major milestone for the telecommunications industry, demonstrating the large-scale benefits of convergence.

The success of this network deployment was dependent on the adoption of a holistic IP network approach. Consistent network requirements and policies were applied across the entire infrastructure, including the core, broadband aggregation, and service provider edge architectures, enabling the deployment of VoIP services.

BUILDING A NEW FOUNDATION

Moving the company's traditional business model to an IP-based model required building out a new IP core network. The motivating factors for this project included its benefits to the existing telecom business and the opportunities it would give the provider for expanding into broadband data services.

“Operating expense savings of more than 60 percent were a key motivator for the IP infrastructure, but so was the provision of new data services,” says Kelly Ahuja, vice president of marketing at Cisco®. “The new network allows our customer to launch new services more easily.”

The requirements for the new network included the ability to support next-generation broadband services including Gigabit Ethernet LANs and VPNs. The solution also required the ability to manage both data and voice traffic and to provide the required quality of service (QoS) levels for each. The scale of the national network also required many considerations. Delivering Ethernet to a wide area such as an entire city posed not only technical issues, but also called for rethinking marketing as the salesforce spoke with customers accustomed to service performance associated with existing ATM solutions.

To help ensure the success of the entire buildout, the Cisco customer relied on the experience, call control technology, and systems integration services of a local telecommunications systems integrator. The carrier also credits a large part of its success to its decision to partner with Cisco Systems. Cisco provided the Cisco 12000 Series Router solutions and technology the company required for its IP core network, and in-depth experience with every aspect of the buildout. “Our team’s expertise and support in the field were critical to the project. The excellent working relationship between Cisco and this customer brought everything together and kept us on schedule,” says Kelly Ahuja.

LARGE-SCALE BROADBAND AGGREGATION

With the updated IP core in place, the carrier recently shifted attention to the evolution of its broadband aggregation architecture. By adopting the new generation of Cisco 10000 Series Routers, the company was able to provide IP/Multiprotocol Label Switching (MPLS), broadband aggregation, and leased-line services on the same platform.

Combining all services on one platform improved service delivery efficiency, simplified supply-chain provisioning, and reduced the operational cost of service while allowing the company to enlarge the number of subscribers. Enzo Signore, director of broadband marketing at Cisco says, “The Cisco 10000 Series Routers give the required features, scalability, and reliability to increase market share of both broadband and private-line customer bases.”

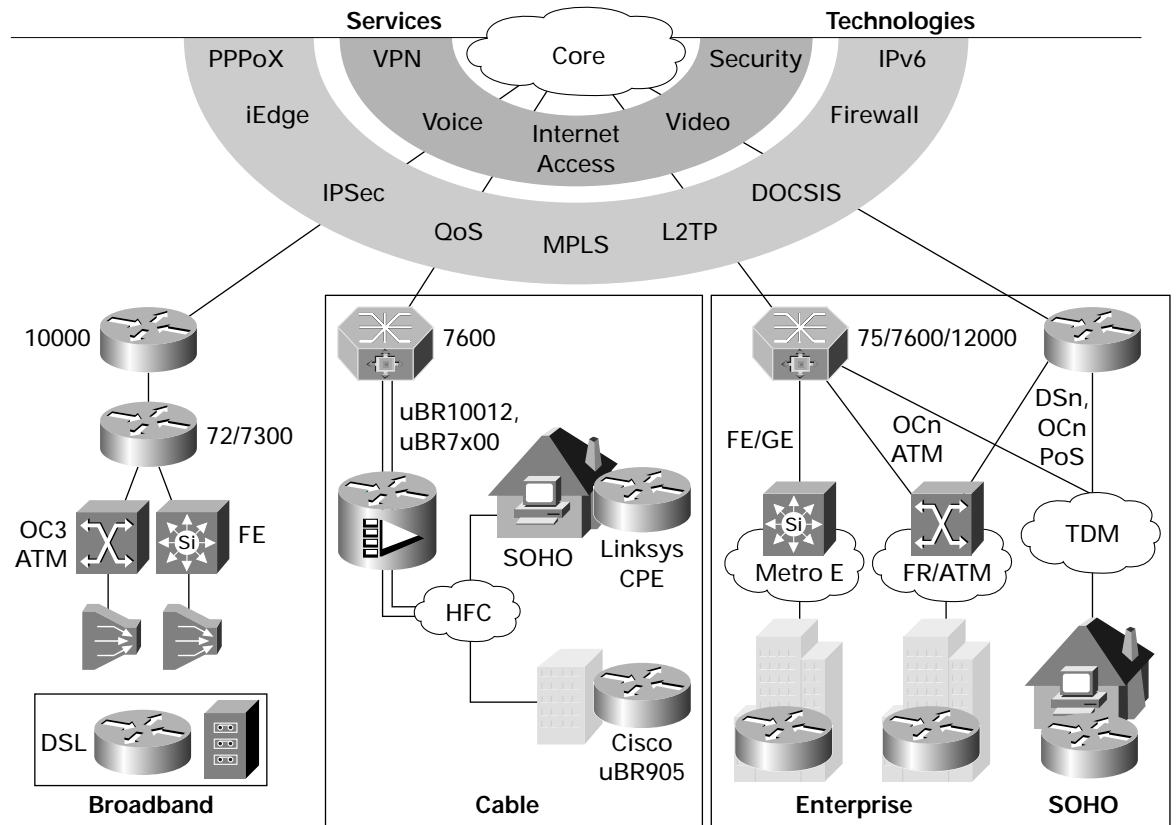
A NEW EDGE ARCHITECTURE FOR SERVICES

The new IP core represents the beginning of a new business for the carrier. As Kelly Ahuja says, “Having voice traffic moving over a national IP network has been an important target for the customer. Now that it has deployed a broadband aggregation solution and completed the migration to the new core, it’s ready for the next step—rolling out end-user services. With the new national network, and a flexible Cisco broadband edge architecture, it can deliver a wide variety of services to a diverse customer base. The carrier has begun with three families of services: basic dialup access, broadband access with DSL services for businesses and residences, and VPN services using Gigabit Ethernet.”

The new edge architecture for the network uses the Cisco 7600 Series Routers. The carrier chose the Cisco 7600 Series after evaluating a range of choices from several vendors. Its evaluation criteria included:

- **Mbps cost:** The carrier measured the throughput rates of the leading routers and computed a cost per megabit for each. Cisco offered the best throughput value.
- **Functionality:** Edge routers were also compared for integrated functionality as it related to the support of services. Specifically, the carrier selected the Cisco 7600 Series for its superior ability to support both Ethernet and IP, and for its QoS, traffic engineering, and network management features.

“Many competitors focus on providing basic features or reducing price points, but our customers continue to tell us they choose Cisco as a vendor that provides the most added value for services,” says Kelly Ahuja.



A CISCO VOICE INFRASTRUCTURE

This carrier's project used the Cisco Voice Infrastructure and Applications (VIA) transport services framework and the Cisco Business Voice Services (BVS) program. Cisco VIA includes the gateway, call routing, IP-to-IP interconnect, and operations and services support. Cisco BVS assists carriers delivering voice services to business customers of all sizes.

Today, the voice-enabled IP core is in place, and the company's domestic wireline voice traffic already travels over this network.

MIGRATION TO COMBINED DATA AND VOIP

The new access services strengthen the company's commercial and government customer bases. Often, these customers must be convinced to move from existing ATM networks. This carrier has been successful in showing its customers that the new converged infrastructure provides the functionality and performance for differentiated services that increase choice and value. By emphasizing the flexibility, quality, and service richness of IP, the carrier is winning over even the most demanding customers.

During the second half of 2002, the company extended a migration program to its largest customers. The program has been a huge success. For example, the two largest banks in the country now use the carrier's IP network exclusively. These high-demand customers recognized and now are reaping the full benefits of this

network to increase their leadership in a highly competitive market. With strong QoS, security, high availability, and network management capabilities, the Cisco foundation provides the service guarantees required by these mission-critical businesses.

OUTLOOK FOR THE FUTURE

This European carrier will build from its new IP base, and use Cisco IP telephony technology to deploy hundreds of innovative voice features. The first customers that will be reached with these follow-on voice services will be business customers. Looking ahead, Kelly Ahuja predicts, "This customer will introduce this year voice technology to its managed services portfolio. 2004 will be the year of IP-PBX solutions based on Cisco CallManager software. Broadband access is becoming pervasive in the carrier's customer base, and customers now want to combine data and voice. They can now meet that need with a new foundation for VoIP solutions based on Cisco IP telephony. This carrier will see equivalence between traditional TDM telephony, and the new VoIP approach this year."

With the new IP/MPLS core, the carrier is evaluating the new Cisco Metro Ethernet switching portfolio, including the Cisco Catalyst® 2950 Long Reach Ethernet (LRE) 997 switch. When combined with the Cisco 576 LRE customer premises equipment (CPE) device, the Cisco solution enables Ethernet-based broadband services over existing copper infrastructure. The carrier is considering the Cisco LRE solution for delivering its Hyperway ETHernity Metro Ethernet services over copper to small and medium-sized businesses (SMBs), to bridge the gap between fiber-based Ethernet to the Business (ETTB) services and basic copper-based connectivity services.

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