



CUSTOMER SUCCESS STORY

FASTWEB DEPLOYS PAY-PER-USE INTERNET WITH CISCO IP NETWORKING AND SUBSCRIBER MANAGEMENT SOLUTIONS

EXECUTIVE SUMMARY

FASTWEB

FastWeb is the leading alternative broadband provider in Italy. The company provides business and residential customers with innovative services over fiber and ADSL and an integrated system that supports simultaneous use of telephony, high-speed Internet, and video. Founded in 1999, FastWeb has experienced rapid growth. By June 2004, the company served more than 417,500 customers—a 68 percent increase with respect to the same period of the previous year.

BUSINESS CHALLENGE

- Originally, pay-per-use (PPU) services were limited to DSL subscribers
- FastWeb needed to expand PPU offerings to Ethernet to the home (ETTx) subscribers
- Broadband remote access server (B-RAS) lacked the headroom to deliver video on demand (VoD) to DSL subscribers

NETWORK SOLUTION

- Broadband aggregation with Cisco® 7600 Series routers operating Cisco Subscriber Edge Services Manager (SESM) support growing subscriber base and help create new revenue-generating services
- Cisco Multiprocessor WAN Application Module (MWAM) centralizes PPU functionality and runs Cisco Service Selection Gateway (SSG) application software for operational cost savings
- Cisco Firewall Services Module (FWSM) centralizes Network Address Translation (NAT) functionality, for improved network security

BUSINESS VALUE

- Centralization of PPU and NAT functionality simplifies the infrastructure, reducing the total cost of ownership (TCO) and streamlining network management
- Solid failover abilities and an extensible design provide the scalability and resilience to accommodate a distributed solution in the future
- New broadband aggregation helps enable an expanded service portfolio

FastWeb teamed up with Cisco to centralize the provider's PPU functionality and create a resilient foundation for rolling out services to its fast-growing base of residential and business subscribers throughout Italy. Successful deployment of the service was accomplished thanks to the close integration of Cisco innovative communication solutions with the OSS platforms developed by FastWeb for controlling customer access to the PPU service.

BUSINESS CHALLENGE

FastWeb has been a pioneer of true broadband services in Europe. With fiber and DSL lines reaching residential and business subscribers in the major cities of Italy, the company uses a single IP platform to integrate data, voice, and video services and traffic. Business has grown aggressively. The subscriber base exceeded 417,500 by June 2004—that is a 68 percent increase compared to the same period of 2003.

To continue its impressive growth, FastWeb recognized the need to expand its service portfolio. Specifically, the company could only offer PPU services to its DSL subscribers. The company wanted a more flexible billing scheme whereby subscribers could choose between flat-rate billing and a time-based per-use billing option. This type of billing model would not only provide more flexibility to subscribers, but it would allow FastWeb to extend this model in the future to other services like on-net to on-net traffic billing and parental control. The PPU model was already in place for the FastWeb DSL installed base, and so FastWeb set the goal to extend the network to support the same PPU abilities for its ETTx customers. At the same time, they aimed to expand services for DSL subscribers to include high-bandwidth services such as VoD, but the current FastWeb B-RAS was not capable of handling the additional traffic for these services, due to the high level of resources consumed by the SSG application running on the B-RAS's themselves.

FastWeb also focused attention on the long-term requirements of its network. Besides supporting new services and the projected increase in the subscriber base, an upgrade would need to address the increasing complexity of the infrastructure and the related expense of operating and maintaining the network.

“The implementation of FastWeb’s Internet pay-per-use platform is a perfect example of Cisco’s ability for creating, pursuing, and sustaining new business opportunities through clever engineering, thorough project management, and careful customer assistance.”

—Guido Roda, Director of Network Service Engineering, FastWeb

NETWORK SOLUTION

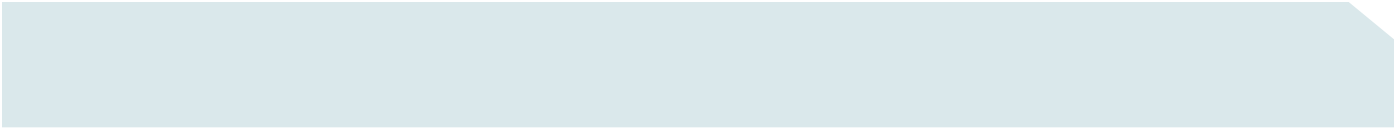
The FastWeb network consists of a typical core-aggregation-access model. The core is comprised of Cisco 12000 Series Routers in the point of presence (PoP) providing metropolitan-area backbone connectivity. The aggregation switches are comprised of Cisco Catalyst® 6500 Series Switches and are used to connect the core to the access network. The access portion of the network is comprised of Cisco Catalyst 3524 and Cisco Catalyst 2950 Switches to provide “last-yard” connectivity to subscribers. When considering intelligent broadband aggregation solutions and after evaluating the various offerings of the leading vendors, FastWeb chose a comprehensive Cisco solution based on the Cisco 7600 Series. The related modules and software provide a multitude of services for the upgraded FastWeb network:

- Cisco SSG and Cisco SESM solutions increase revenue opportunities by helping enable per-subscriber customizable on-demand services, branded Web portals, service-based authorization and accounting, and service and subscriber management.
- Cisco MWAM centralizes PPU functionality. Installed in the Cisco 7600 Series Router, the Cisco MWAM allows FastWeb to run multiple instances of aggregation applications and builds in scalability to the solution. With the Cisco MWAM, the Cisco 7600 Series Routers help enable the support of data, voice, and video edge services from a single aggregation device. This module also supports the Cisco SSG application software.
- Cisco FWSM introduces a high-performance firewall and centralizes NAT functionality for the FastWeb network. This module is able to support up to 1 million concurrent connections, with performance of 3 million packets per second (pps), giving FastWeb a high-performance, resilient solution.

The Cisco Systems® solution was selected for its ability to centralize both PPU (using the Cisco SSG and Cisco MWAM solutions) and NAT functionality (using the Cisco FWSM solution), and for its superior scalability and resilience, including built-in failover capabilities.

A key success factor in the implementation of the PPU service was the special relationship that Cisco and FastWeb established during the solution design and development phases: on one side, FastWeb was given the opportunity to open a direct communication channel with Cisco Engineering and Product Development teams; on the other side, Cisco agreed to accept FastWeb’s feedback on the expected service profile. As a result, several new features were incorporated in the Cisco standard MWAM code, upon suggestion from FastWeb’s Network and IT Engineering teams.

The FastWeb solution required extensive testing. The Cisco team in the United Kingdom took advantage of the company’s Networked Solutions Integration and Test Engineering (NSITE) facilities to meet the needs of FastWeb. The NSITE lab is used to test and strengthen Cisco IOS® Software and hardware platform releases that are deployed as part of complex, large-scale system solutions to meet worldwide customer requirements. With access to NSITE and Cisco expertise, FastWeb was able to exercise a full mock-up of its environment for four months. The responsive and expert assistance from the Cisco technical teams streamlined the overall testing process, and contributed to the successful rollout of the new FastWeb services.



Thanks to this joint design, development and testing activity, it was possible to bring to the market a brand-new service enabling infrastructure, powered through the seamless integration of the Cisco innovative communication control engine with the OSS platforms developed by FastWeb, implementing the PPU service control logic. The Cisco solution also accommodates a distributed approach in the future, when the growth of the FastWeb subscriber base requires additional network devices.

BUSINESS VALUE

For residential subscribers, FastWeb currently offer carrier-class H.323 voice over IP, broadcast TV, and video on demand. Business customers can choose from storage and backup services, H.323 voice over IP, IP video surveillance, IP VPNs, videoconferencing, and innovative video streaming services. The network has the capacity to handle additional services, and will also accommodate the projected growth in the FastWeb subscriber base.

Over the new PPU infrastructure, FastWeb was able to streamline and harmonize the delivery of time-based access to the Internet across different access technologies. At the same time, the new infrastructure allowed FastWeb to offload the B-RAS's and gain the ability to deliver an expanded portfolio of Video services to ADSL customers.

Guido Roda, director of network service engineering at FastWeb, says, "The implementation of FastWeb's Internet pay-per-use platform is a perfect example of Cisco's ability for creating, pursuing, and sustaining new business opportunities through clever engineering, thorough project management, and careful customer assistance."

The simplified design introduces many advantages for managing the infrastructure, resulting in TCO savings for both the PPU and NAT functionality.

In the future, FastWeb plans to take advantage of the flexibility of the Cisco solution and migrate to a distributed solution. This will help enable the company to further increase revenues by billing for Internet traffic that travels on-net to on-net.

FOR MORE INFORMATION

For more information about Cisco broadband solutions and services, visit <http://www.cisco.com/go/broadband>. For more information about FastWeb, visit <http://www.fastweb.it>, or visit its parent company e.Biscom at <http://www.ebiscom.it>. (An English translation of the site content is provided.)

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