



Realizing the benefits of virtualization

Cisco Nexus solution enables FASTWEB to protect investment, reduce risk, and fund data center evolution.

EXECUTIVE SUMMARY

Customer Name
FASTWEB SpA



Industry: Service Provider

Location: Italy

Company size: 3500 employees

Challenge

- Do more with less
- Improve business agility
- Satisfy stringent security requirements

Solution

- Adopt Cisco Data Center 3.0 approach
- Deploy Cisco Nexus 7010 platform

Business Results

- Faster and more cost-effective response to customer requests
- Savings to help fund other data center projects
- Investment protection (Unified Fabric ready)

Challenge

In just ten years, FASTWEB has become the second largest telecommunications provider in Italy. The operator built its own IP Next-Generation Network and rapidly became a leading reference worldwide for how to create and build IPTV services. Today, that network spans over 26,000 km and covers 50 percent of the country's population, enabling business and residential customers to receive quad-play (fixed and mobile telephony, broadband, cable TV, and IPTV) services over a single connection.

However, this success has brought with it explosive growth in network traffic and demand for hosting and storage services.

"Although our data centers have been a key enabler for growth, increasingly we need to do more with less," says Massimo Vassalli, IT infrastructure operations manager for FASTWEB. "The focus here is to reduce computing, storage, and network systems and simplify infrastructure. Then, by introducing virtualization technologies, we can improve operational efficiency, and service performance, while also making better use of assets and resources."

The journey towards consolidation and virtualization began at FASTWEB's data centers in the Milan area: Caracciolo

and Bernina. These mission-critical facilities enable more than 250 customers to do business every day by providing access to information, applications, and essential tools. On average, the data centers support and protect more than 2 petabytes of data, 80 percent of which is network attached storage (NAS), with the other 20 percent traveling over a storage area network (SAN).

The first challenge was to simplify the management of some 4000 Sun, and HP servers, many of which had multiple network connections as well as different middleware and switching dependencies.

Faced with a lack of server space, FASTWEB also wanted to acquire new capabilities so that it could rapidly adapt its facilities and respond better to new customer requests. One such example was a project to physically separate and co-locate, within two dedicated caged sites, all of the servers and applications that supported high-security operations.

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–Massimo Vassalli, IT infrastructure Operations Manager, FASTWEB

Solution

FASTWEB decided to align its strategy to Cisco® Data Center 3.0, a practical roadmap for data center evolution. “Cisco Data Center 3.0 provided a logical framework to protect IT investment and move from a server to a service-oriented data center architecture,” says Vassalli.

Cisco’s holistic approach uses a three-phase methodology: consolidate, virtualize, and automate. The end result is tighter integration of servers, networks, and storage systems, which in turn helps to deliver new improvements in performance and cost efficiency.

The first step was look at how FASTWEB could improve server utilization through its core network technology, comprising Cisco Catalyst® 4500 and 6500 Series Switches, and integrating it with VMware virtualization software. “We place great trust in our Cisco network foundation, so this was an obvious place to start,” says Vassalli. “By taking advantage of its open standards architecture and powerful integration capabilities, we were able to better harmonize our servers and network administration.”

The project created a common infrastructure that makes it possible to run multiple applications and operating systems in a single resource pool that spans several physical machines. The Cisco network also supports BMC BladeLogic system-management tools, which provide in-context provisioning, automation, and control of resources.

Next, taking this architectural approach, FASTWEB focused on improving the existing physical data center design. Key requirements included the ability to deliver highly secure, virtualized services between its Caracciolo and Bernina sites. FASTWEB carefully considered several options, including an expansion of the existing Cisco Catalyst network, before eventually selecting the Cisco Nexus 7000 platform.

“It’s always important with any IT investment decision to separate hype from innovation,” says Vassalli. “Our Cisco account manager was extremely helpful and arranged a demonstration so we could see firsthand the new benefits and features of the solution.”

The Cisco Nexus 7000 platform is a key component of Cisco Data Center 3.0. It enables the introduction of next-generation data encryption and network virtualization capabilities, along with other new features, such as virtual port channels (another virtualization technology that enables all available uplink bandwidth to be utilized at any time).

Although the solution met FASTWEB’s technical requirements, the project still needed to make sound commercial sense. “The Cisco Nexus 7000 platform represented excellent value for money when you consider that we would have had to deploy twice as many traditional devices (three pairs of Cisco Catalyst 4500 and one pair of Cisco Catalyst 6500 Series Switches) in the network to achieve similar levels of performance and security,” says Vassalli.

The solution, comprising two pairs of Cisco Nexus 7010 Series Switches, was designed by Cisco Customer Advocacy to deliver 10 Gigabit Ethernet connection speeds, combined with exceptional levels of scalability, availability, and transport flexibility. The switches also work hand-in-hand with Cisco ASA 5500 Series Adaptive Security Appliances, which provide firewalling and VPN intelligent threat defense and secure communications services that stop attacks before they affect business continuity.

Results

The Cisco Data Center 3.0 has provided FASTWEB with a long-term architectural approach that enables data center transformation with significant cost reduction.

For example, the consolidation of multiple devices and increased scalability (and, therefore, less need to invest in new hardware) will help to create capital savings, while simplified IT management and reduced power and cooling requirements will lower operating expenditure.

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–Massimo Vassalli, IT Infrastructure Operations Manager, FASTWEB

The deployment of the Cisco Nexus 7010 platform, a first of its kind in the Italian service provider market, means that FASTWEB can offer more robust service-level agreements. Customers can also benefit from greater data center productivity and flexibility, for example, to accelerate the deployment of new applications and services to their organizations and their end customers.

Virtualization has improved business agility. “The Cisco Nexus solution means that we can respond much faster to the needs of our customers,” says Vassalli. “Recently for a special project, we were able to separate, and re-site, sensitive data from physical servers, in record time and at lower cost. As a result, the customer can now be confident of meeting new security compliance requirements, which means there is less risk to us in terms of potential brand damage, or financial penalties.”

By not taking a tactical or “short-term” fix approach, FASTWEB also benefits from the technology roadmap offered by the Cisco Nexus 7000 family, which makes it easier to adopt new technologies in an incremental, cost-effective manner.

The next-generation data center platform can be used, for example, to deploy a single Unified Fabric to simplify server connectivity, cabling, data center infrastructure (data, storage, and server clustering networks and interfaces), administration, and management (including Virtual Device Context to divide different tiers of traffic with no additional hardware costs).

The successful adoption of Cisco Nexus 7000 series is just the latest step in an ongoing program to align FASTWEB data centers to the full Cisco 3.0 architecture. Previously, FASTWEB had built its SAN with a handful of Cisco MDS 9000 Multilayer Directors that enable “one-to-many” switch virtualization by using Cisco VSAN technology. In addition, the provider also enjoys the benefits of Cisco Application Control Engine Modules, the latest generation of hardware load-balancers.

“We see Cisco as a player for the whole data center, not just part of it,” says Massimo Vassalli, IT infrastructure operations manager for FASTWEB. “We are already considering plans to expand our Cisco Nexus 7000 network and boost our server virtualization strategy with intelligent Cisco Nexus 1000v switches and a new Unified Computing System.

PRODUCT LIST

Routing and Switching

- Cisco Nexus 7010 Platform

Data Center Security

- Cisco ASA 5580 Adaptive Security Appliances



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