Transforming Networking and Server Administration

Customer Case Study

FASTWEB creates new model for managing virtualized workloads, reducing complexity, costs, and time-to-market.

EXECUTIVE SUMMARY

Customer Name: FASTWEB SpA

Industry: Telecommunications

Location: Milan, Italy

Number of Employees: 3400

Challenge

- Improve management at virtual machine level
- Speed up troubleshooting and deployment of new services

Solution

- Cisco Data Center Business Advantage vision, architecture, and technologies
- Cisco Nexus 1010 Virtual Services Appliance

Results

- Time to deploy new services accelerated by 80 percent
- Clear separation between server and networking administrative domains
- Process efficiencies and productivity gains expected to translate into cost savings

Challenge

FASTWEB knows all about unlocking value from quad-play. As part of a sustained and forward-looking strategy, the Italian service provider has built a 32,000 km next-generation network for delivering converged voice, data, video, and mobile services. This investment has enabled FASTWEB to accelerate the creation of new, differentiated offers for business and residential customers, while reducing operational complexity and overhead.

This success has been built on the early adoption of the most advanced technologies. FASTWEB's latest innovation focused on another common concern for virtualized data centers: eliminating isolated operations that hinder time-to-provisioning and troubleshooting. This practice, of using VMware vSwitches to manage the virtual access layer of the network, offered limited flexibility, security, and accountability when it came to virtual machine (VM) mobility and load balancing.

Server administrators were normally the first point of contact if a problem arose. If they were unable to resolve the issue, the job would be passed to the network team, who had no way of determining what was happening inside the virtual machine. When it came to managing virtualized workloads, neither side had the complete picture or necessary toolkit. As a result, the whole process was incredibly costly and labor-intensive.

Solution

FASTWEB has developed a future plan for managing virtualized workloads. The model, another first for the Italian market, is based on the Cisco Nexus® 1010 Virtual Services Appliance, a NX-OS server appliance that can host multiple Virtual Service Blades (VSBs), including up to six Cisco® Nexus 1000V Series Switches (and up to ten Cisco Nexus 1000V Series Switches under the latest 1010-X platform).

Aligned with Cisco Data Center Business Advantage, an architectural framework for data center transformation, the Nexus 1010 supports network analysis down to the VM layer. This capability gives FASTWEB's network administrators granular visibility into virtual workloads, without having to trouble the storage and virtualization operations teams.

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Luca Salati (Network Engineering team)
FASTWEB

"The Cisco Nexus 1010 allows one operations team to effectively manage policies and troubleshoot issues at the VM level. Now there is no need to hand off tasks to other parties."

Luca Chiappetti (Network Operations team)
FASTWEB

"The Cisco Nexus 1010 allows one engineering team to effectively manage policies and troubleshoot issues at the VM level," says Luca Salati (Network Engineering team) and Luca Chiappetti (Network Operations team). "Now there is no need to hand off tasks to other parties."

The solution design incorporates a pair of Nexus 1010 appliances in each Data Center. The traffic generated by each appliance is handled by the two LAN-on-Motherboard (LoM) network ports, which reduces the risk of misconfiguration and helps to ensure that no single point of failure exists. In addition, the new Cisco appliances also allows the service provider to extend its use of Nexus family features, such as In-Service Software Upgrade for reducing downtime, and port channeling for increasing redundancy and bandwidth.

Cisco Nexus architecture also gives FASTWEB a strong platform for further development. For example, hosting the Cisco Prime Network Analysis Module (NAM) on the Nexus 1010 appliance provides a higher level of VM control and analysis by extending visibility into the Virtual Machine (VM) network. FASTWEB also has the potential to strengthen security at the VM level by hosting the Virtual Security Gateway (VSG) on the Nexus 1010. The VSG is an intra-tenant Firewall that can be used to create zones of trust within your Data Center.

Results

FASTWEB's approach of using the Cisco Nexus 1010 to clearly define server and networking domains has transformed virtualized server farm management.

New services can be deployed faster. Previously, before a new application could be launched, it had to be set up by a system administrator. Production timelines were often missed or postponed, because administrators were struggling with busy workloads. By removing this step alone FASTWEB expect to accelerate time-to-deployment by 80 percent.

Improved load-balancing of traffic across the server farm, combined with better visibility of virtual machines, has optimized operations. "We've taken a quantum leap in the way we handle over 1000 VMs. The Cisco Nexus 1010 provides fewer points of management and better tracking of machines as they transfer around the data center," says Luca Salati (Network Engineering team) and Luca Chiappetti (Network Operations team).

Although the application has been in place for only a short time, FASTWEB expects these process efficiencies and productivity gains to translate into cost savings.

With this solution, less complexity and risk are associated with virtual networking. Both the Cisco Nexus 7000 and 1010 run on the Cisco NX-OS which gives, for example, FASTWEB greater consistency of software and management tools across the virtual access and core network layers.

Moreover, FASTWEB's innovative VM management approach does not end there. The provider is considering the possibility of hosting the Cisco Data Center Network Manager (DCNM) LAN Virtual Service Blade (VSB) on the Cisco Nexus 1010. Capable of managing physical and virtual switches, the DCNM simplifies the deployment of innovative Cisco NX-OS features. It can also be used to monitor the performance of individual VMs and provide VM-aware path analytics, giving even greater granularity and control.

For More Information

To find out more about the Cisco data center vision, architecture, and portfolio, please visit: www.cisco.com/go/datacenter

For more information on the Cisco Nexus 1010 Virtual Services Appliance, please go to: www.cisco.com/go/1010

Product List

Switching

- Cisco Nexus 1000V Series Switches
- Cisco Nexus 1010 Virtual Services Appliance

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Cisco Systems, Inc.
San Jose, CA

Asia Pacific Headquarters
Cisco Systems (USA) Pte. Ltd.
Singapore

Europe Headquarters
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