CISCO™

Energizing smarter data centers

Critical Snam operations had to run uninterrupted while cutting sites, systems, and complexity. Ingenious switching held the solution.

"Our many applications cannot have outages. We used OTV to safely migrate our virtual infrastructures."

Giuseppe Falivelli, Telecommunications and Integrated Systems Manager, Snam

When delivering critical supplies like gas, make absolutely certain your IT systems won't fail. Snam chose Cisco Nexus® switches for exactly that reason.

Challenges	• Support business strategy and continuity
	• Standardize and virtualize IT services
	• Reduce data center footprint

Snam operates in all gas regulated activities in Italy. It manages a national transportation network that is more than 32,000 kilometers long with eight storage sites, one regasification plant and a local distribution network covering more than 55,000 kilometers. The business needs to be nimble. The IT landscape was complex, with eight data centers and 220 applications.

The Group's ICT systems were completely redesigned through the NIS (New Snam Infrastructure) Program. The new Data Center adopted innovative solutions to ensure high levels of eco-sustainability through low energy consumption (PUE <1.2) and service continuity through equipment redundancy, high reliability and Tier IV classification.

Snam set three aims. First, rationalize data centers: consolidating to a single, energy efficient data center, ensuring continuity of service and sustainable development.

Second, streamline IT with standard, virtual systems. Choosing Industry Standard platforms and pushing towards virtualization and standardized architecture allowed Snam to overcome lock-in technology, increase reliability of ICT services and simplify its operating model. The overall result is improved flexibility, scalability, and speed of response to business needs.

Case Study | Snam

| Size: 6070 employees | Location: Italy | Industry: Utilities |

Third, ensure disaster recovery. The result has been achieved by setting up a secondary site, developing systems for the protection of critical data, and adopting new standards of ICT security. And all without affecting business.

Moving so much data around clearly required a new kind of switching. With demanding time constraints for the whole project, selecting the right technology with the right support was at the top of the list.
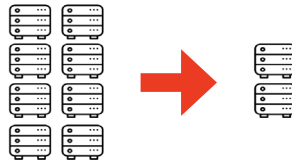
With Cisco® Overlay Transport Virtualization, Cisco Nexus switches make it easy to move masses of data from one place to another.

Solutions	• Upgraded to a Cisco Nexus switching platform
	• Linked old and new data centers
	• Used Overlay Transport Virtualization to move data

Fast, hitch-free data transfer

Physical and logical migration of ICT infrastructure has been carried out by minimizing or reducing to zero service interruptions. This was possible due to the previous transformation that enabled Snam to use cutting-edge technologies and logical migration of virtual machines without necessarily performing a shutdown. During the design, interdependency between applications was examined and an integrated plan produced, thereby reducing the impact of those activities.

Snam chose Cisco Nexus switches. The main reason was that Nexus was the only platform offering Overlay Transport Virtualization (OTV), which allowed virtual machines to be transferred without interrupting operations.

OTV advanced technology extends Layer 2 networks over any infrastructure. It was used to safely transfer all applications and data from eight locations to a new primary center and backup facility, without affecting the business. During migration, 1.500 virtual servers were moved without any service interruption.

Less to manage

With the new setup, Snam has improved server virtualization by 40 percent. This strong push allowed the company to increase continuity of service and to assure greater scalability and speed in setting up new environments. This can be achieved through the decoupling of applications from the underlying hardware and the better allocation and use of physical resources.

Server virtualization up
by **40%**

Adopting technology standards and a high rate of virtualization, Snam managed to implement a private cloud and further increase the speed of development and testing. That's not all. There are two versions of operating systems instead of 25. Three middleware versions instead of 13. And two databases instead of 10. Giuseppe Falivelli, Telecommunications and Integrated Systems Manager, says: "Everything is so much easier to run than before".

Versions of operating systems reduced from

25 to **2**

Safer and surer

After the project, OTV still helps shuttle data across the network. With another Cisco Nexus feature, Virtual Device Context, Snam staff can run test and development activities alongside live production. Both domains are securely separated on the same Cisco Nexus platform.

The design of new storage, network, and security infrastructure has been developed for high reliability with no single points of failure and increased security. Inside the new data center, every single element of the infrastructure is linked through two independent connections and diverse routes.

Storage and servers for data management and application logic are mutually segregated using firewalls for confidentiality and data integrity. Perimeter security mechanisms ensure controlled access to applications and intercept any fraudulent or harmful activity.

And our experts helped get it done on time

Cisco Services made sure network designs were drawn up in time, and that the project ran smoothly with no delays and zero downtime. Cisco security systems kept data and applications safe, during and after migration.

Results	• Diminished the risk factors of the migration
	• Strengthened business continuity
	• Reduced IT effort

A blueprint for the future

The project established a best practice, providing future-proof ICT technologies and infrastructures to all Snam's subsidiaries.

Products & Services

Switching and Routing
- Cisco Nexus 7000 Series Switches
- Cisco Nexus 5000 Series Switches
- Cisco Nexus 2000 Series Fabric Extenders

Security
- Cisco Next-Generation Intrusion Prevention System

For More Information

To learn more about the solutions and services featured in this case study, visit:
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