FORTINET

Leading Italian Energy System Operator Boosts Efficiency with Secure SD-WAN

Founded over 80 years ago in the Lombardy region of Italy, Snam has become Europe's leading operator of natural gas transport and storage and one of Italy's top 10 listed companies by market capitalization.

As well as operating a network of pipelines long enough to encircle the Earth (41,000 km), the company manages around 3.5% of the world's gas storage capacity. It is one of the leading operators in liquified natural gas regasification.

In recognition of its increasing strategic importance and influence on the European stage, Snam is now committed to guiding the evolution of the energy sector toward greater security and sustainability.

To this end, the company has set itself a net-zero target on Scope 1 and 2 CO_2 equivalent emissions by 2040 and a target for indirect Scope 3 emissions reduction by 2030.

Operational Efficiency through Innovation and Digitalization

In his four-year strategic plan for 2022–2026, Snam CEO Stefano Venier announced a 450 million Euro investment program of innovation and digitalization spanning security, asset resilience, process optimization, and business sustainability.

The enabling technologies for this program include artificial intelligence (AI), Industrial Internet of Things, digital twin virtual modeling, cloud, and edge computing.

SNAM's corporate network, which links over a hundred branch offices and industrial plants across the region, also came under scrutiny to ensure a secure foundation for this ambitious digital transformation program.

Built upon a combination of managed services and in-house technology, including a company-owned MPLS network, the existing infrastructure lacked centralized control and visibility and was increasingly suffering from poor application response due to excessive network latency.

Security and NIS2 Compliance

For Snam's senior network manager, Jury Floreani, the lack of control and visibility over the corporate network also raised security concerns. "Without a clear, consolidated picture of what was happening across the network at any given moment," he explains, "it was impossible to respond effectively to new security threats while ensuring the integrity and continuity of our services."

"From a final shortlist of two, Fortinet emerged superior in each of the key areas of security, performance, and manageability, but it was the power and simplicity of the overall management and its ability to create unified security policies that were most compelling."

Jury Floreani,
Senior Network Manager

Details

Customer: Snam

Industry: Utilities

Location: Lombardy, Italy

Number of Secure SD-WAN Locations: 130

Moreover, due to the critical importance of Snam's services, both nationally and across the European Union (EU), the company will undoubtedly be classified as "an Essential Entity" under the EU's second directive on the security of network and information systems (NIS2). As such, Snam will then be subject to even stricter cybersecurity and incident reporting obligations than under current NIS and GDPR directives, with a threat of correspondingly steeper financial penalties for noncompliance.

The Transition to Secure SD-WAN

The chosen architectural solution to these challenges was to transition the infrastructure to software-defined wide area network (SD-WAN). But as with any such transition, the benefits of providing direct access to cloud and internet resources at the network edge needed to be weighed against the security implications of bypassing the previous centralized security checks that occurred as traffic was backhauled through the data center.

Instead, Snam's traffic must be subject to security controls at each SD-WAN node, requiring comprehensive threat protection capabilities and SD-WAN functionality. Since Snam operated its own MPLS network, these existing links would be maintained, but supplemented by secure local internet breakouts at the remote sites and LTE cellular connections for added link redundancy. The company, therefore, began its search for a centrally managed solution comprising the right combination of high-performance, high-availability networking, unified security, and communications services to support its requirements.

Because Floreani and the team already had some experience with the FortiGate Next-Generation Firewalls (NGFWs) currently providing internal segmentation at the data center, the Fortinet Secure SD-WAN solution (based on functionality already integrated into the same FortiGate platform) was evaluated within many other vendors' solutions.

"From a final shortlist of two, Fortinet emerged superior in each of the key areas of security, performance, and manageability," recalls Floreani. "But it was the power and simplicity of the overall management and its ability to create unified security policies that were most compelling."

As a result, Snam began deployment of FortiGate NGFWs to each remote site, with FortiExtender gateways providing fully integrated LTE backup as required. Each FortiGate was deployed with the full suite of UTP capabilities enabled, including antivirus, intrusion prevention, URL filtering, and application control.

By offloading these CPU-intensive UTP tasks to a dedicated security processing unit (SPU), the FortiGate can perform deep packet inspection of SSL-encrypted traffic, identify thousands of different traffic types, and carry out all the associated processing without compromising overall throughput.

Business Impact

- Improved user satisfaction, service reliability, and network performance

- Increased operational efficiency with SD-WAN

- Lowered operating expenses, reduced administrative overhead and communications costs

Solutions

- FortiGate Next-Generation Firewall

- FortiExtender

- FortiManager

- FortiAnalyzer

- Fortinet Secure SD-WAN

Services

- FortiCare Professional Services

- FortiGuard AI-Powered Unified Threat Protection (UTP) Bundle

"Without a clear, consolidated picture of what was happening across the network at any given moment, it was impossible to respond effectively to new security threats while ensuring the integrity and continuity of our services."

Jury Floreani,
Senior Network Manager

Rapid Deployment and Simplified Management

To streamline network deployment and simplify ongoing management, analysis, and reporting, Snam deployed FortiManager and FortiAnalyzer, allowing Floreani and the team to monitor and control the entire network and security infrastructure from a central location.

"The ability to define granular, centralized policies and have them automatically applied as new equipment is installed in the field saved us a lot of time," explains Floreani. "In less than two and half months, the roll-out was complete, providing faster, more reliable connectivity to over a hundred branches."

To simplify such large-scale deployments, the zero-touch provisioning function of FortiManager uses predefined device-provisioning templates. It can even force all new installs and upgrades only to use predetermined firmware versions, achieving consistency across the company's entire network.

FortiManager also brings powerful SD-WAN management capabilities with intuitive workflows and simplified provisioning. Network administrators can set application-centric SD-WAN business policies to fine-tune traffic steering decisions based on performance SLA targets for each WAN provider. Admins can then use the SD-WAN monitoring dashboard to monitor application performance and bandwidth utilization per WAN link, with FortiAnalyzer adding enhanced analytics views and SD-WAN assessment reports.

"Our deployment of Fortinet Secure SD-WAN, assisted by FortiCare Professional Services, has increased user satisfaction and significantly reduced our overall operating expenses," concludes Floreani. "The company now has a secure foundation for our ongoing strategic digitalization program, which takes us a step closer to achieving our long-term goals."

> *"The ability to define granular, centralized policies and automatically apply them as new equipment is installed in the field saved us a lot of time. The roll-out was complete in less than two and half months, providing fast, reliable connectivity to over a hundred branches."*
>
> **Jury Floreani,**
> Senior Network Manager

> *"Our deployment of Fortinet Secure SD-WAN, assisted by Fortinet Professional Services, has increased user satisfaction and significantly reduced our overall operating expenses. The company now has a secure foundation for our ongoing strategic digitalization program, and this takes us a step closer to achieving our long-term goals."*
>
> **Jury Floreani,**
> Senior Network Manager

F⊖RTINET

www.fortinet.com