

CASE STUDY

Puerto Rican Nonprofit Organization Strengthens Security and Networking with Fortinet Unified SASE and SOCaaS

The Puerto Rico Science, Technology & Research Trust (PRSTRT) is a private, nonprofit organization created by law in 2004 under Act 214-2004, as amended. Its mission is to promote Puerto Rico's participation in the knowledge economy through investment, funding, and the development of initiatives in science, technology, and innovation, thereby fostering job creation and economic growth.

In 2017, following a legislative amendment, the trust expanded its scope by being designated as a public health institute and as an educational entity, incorporating research and development, entrepreneurship, public health, and education as its strategic pillars. It currently operates multiple programs that impact these pillars in an integrated way.

Its mission is to invest, facilitate, and develop capabilities to continuously advance Puerto Rico's economy and the well-being of its citizens, while its vision is to position the island as a globally recognized innovation hub.

During fiscal year 2024–2025, the trust strengthened its impact through measurable results across its four strategic pillars: in research and development, it has awarded more than \$17 million in cumulative grants to researchers and supported intellectual property protection with 47 patent applications, generating an estimated return of \$70 million; in entrepreneurship, it has supported more than 20,700 entrepreneurs and continued startup incubation, including 142 new companies in the past year; in public health, it secured \$2.45 million in new funding and maintains more than 40 active clinical studies, in addition to training hundreds of professionals; and in education and workforce development, it impacted hundreds of participants through training programs, scholarships, and STEM initiatives, strengthening talent development on the island.

Connectivity and Security Challenges

Following its designation as a public health institute in 2017, PRSTRT entered a phase of rapid expansion. Within just a few months, the organization multiplied its workforce several times, added buildings adjacent to its main headquarters in San Juan, and established operations in Ponce and within the University of Puerto Rico Mayagüez Campus.

By 2019, the infrastructure needed to support not only a permanently growing team but also a constant flow of employees, consultants, and collaborators connected to its programs. This was further compounded by a recurring public influx generated by ecosystem events, which brought external visitors into its facilities, placing demands that the existing network and security systems were not prepared to handle.



**Puerto Rico
Science, Technology
& Research Trust**

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IT Administrator
Puerto Rico Science,
Technology & Research Trust

Details

Client: Puerto Rico Science, Technology & Research Trust (PRSTRT)

Industry: Research and Development, Entrepreneurship, Public Health, and Workforce Development

Location: Puerto Rico

Number of SASE Users: 250

At the time, PRSTRT relied on a fragmented connectivity and security environment, with multivendor equipment operating in isolation. Network visibility was virtually nonexistent, complicating management and troubleshooting. Any adjustments had to be made manually. As the user base grew, bandwidth demands increased, yet the network lacked the capacity to keep pace, resulting in slow performance.

“We set out to find an integrated solution to manage the entire infrastructure from a single point. We knew Fortinet could deliver what we wanted; its solutions provide full visibility across all network components, along with unified security and centralized control,” says César Piovanetti, CIO of PRSTRT.

A Unified Platform That Strengthens Connectivity and Security

Scaling operations extended beyond physical infrastructure. PRSTRT needed to enhance network speed and ensure consistent performance. This meant reshaping the organization's connectivity and network security requirements, with the top priority being HIPAA compliance to protect, secure, and maintain the confidentiality of protected health information (PHI). The organization also needed to safeguard critical information related to system access, devices, video surveillance, and biometric entry across its facilities.

“Although we had firewalls, switches, and access points, we lacked visibility into the infrastructure,” shares Pablo Ríos, IT administrator at PRSTRT. “Many of our existing processes were manual. We spent a considerable amount of time managing each individual tool, particularly because they didn't talk to one another.” The IT team had limited control over network activity, and security measures could be improved. They had little insight into devices connections, including how or from where users were accessing the network, as well as which resources were being used. Profile segmentation had not yet been implemented, access management needed more structure, and automation was still in its early stages.

To address these challenges, PRSTRT deployed a comprehensive connectivity and security architecture based on the Fortinet Security Fabric platform. The organization implemented three FortiGate Next-Generation Firewalls (NGFWs), two at its main office and one at its Ponce location. It also introduced a virtualized FortiGate to protect its Azure cloud environment, which hosts certain finance applications. The main site uses three redundant internet links, while Ponce uses two. With Fortinet Secure SD-WAN integrated into the NGFWs, connectivity remains uninterrupted through automatic failover between links.

Enhanced, Secure Access from Anywhere

The organization's growing user base has required the optimization of solutions to enable secure access from anywhere. This is further compounded by the challenge of managing hybrid workers, as PRSTRT teams often connect from geographically dispersed locations, including El Salvador, the United States, and Puerto Rico.

Initially, the organization used FortiClient for a zero-trust network access (ZTNA) approach. However, PRSTRT later migrated to FortiSASE, deploying 250 licenses to provide secure access for remote and hybrid users across the web and cloud environments, on top of internal applications.

PRSTRT also implemented FortiAuthenticator VM to streamline and secure user access management. Previously, access control was complex and lacked proper oversight. Today, in alignment with its zero-trust model, the organization benefits from stronger password security, full visibility of connected users, and centralized management.

Business Impact

- Gained full visibility across a previously fragmented, multivendor network environment
- Achieved HIPAA compliance by securing patient data and strengthening control over access, devices, and systems
- Consolidated networking and security into a single unified platform, simplifying management and improving overall control of the infrastructure
- Reduced operational complexity by centralizing management and minimizing manual processes for a lean IT team
- Lowered costs by consolidating security products, optimizing resources, and leveraging managed security services

Solutions

- Network Firewall
- Secure LAN
- Secure SD-WAN
- Unified SASE
- Cloud Security
- SOC Platform
- Workspace Security



Leveraging a Converged and Integrated Network

Additionally, PRSTRT manages a WLAN composed of FortiSwitches and FortiAPs across its facilities. The FortiSwitches are deployed across three floors in the main San Juan headquarters and in the Ponce building. The switches and APs provide Wi-Fi connectivity to the organization's employees and consultants, as well as to external visitors. It also enables IT to monitor network traffic and manage network access for external visitors in public spaces and rented rooms on the San Juan campus.

Meanwhile, the FortiAPs are integrated with FortiAuthenticator to manage visitor internet access via a user portal with two-factor authentication, eliminating the need to manually provide credentials. This approach allows for configuring network segmentation between different floors to provide secure access for the administrative team while maintaining network accessibility for external parties. It has also enabled a converged, fully integrated network aligned with operational demands. "Fortinet gives us complete visibility across the entire network, significantly improving how we manage a complex and demanding environment," notes Ríos.

Centralized management is especially valuable given the organization's lean IT team. The products' straightforward implementation and ease of management, particularly when applying rules, align with the goal of simplifying the team's workload.

Security Operations Solutions That Enhance Protection

For network security logging, analytics, and reporting, PRSTRT deployed FortiAnalyzer. The team can view traffic data from both on-premises FortiGate devices and those deployed in Azure, enabling them to monitor network activity in a single pane of glass. PRSTRT also adopted Fortinet's SOC-as-a-Service to ensure continuous monitoring. "Fortinet SOC-as-a Service gives me peace of mind knowing our operations are always monitored. It's also a far more cost-effective model for an organization like ours, with a small IT team," adds Ríos.

Building on this unified foundation, PRSTRT incorporated additional solutions to further strengthen its security posture. Workforce growth drove the virtual deployment of two key products: FortiMail VM, which protects against spam, phishing, malware, and ransomware; and FortiSandbox VM, which enhances the detection of unknown and zero-day threats. PRSTRT then took it one step further. More recently, the organization implemented 250 licenses of FortiMail Workspace Security, delivering AI-powered protection across email, browsers, collaboration tools, and cloud applications.

"Email is really where my greatest system vulnerability lies, especially at the user level. It's every employee's day-to-day tool," explains Ríos. "Phishing was a real problem until a few months ago. Many users were receiving emails supposedly from our CEO or CFO. As an administrator and IT professional, I know those were phishing attempts. But our users don't necessarily know this. Thankfully, FortiMail Workspace Security has reduced the instances of phishing emails reaching our users to practically zero."

Technology That Delivers Confidence and Protection

The implementation of the Fortinet platform has delivered significant cost savings. Today, PRSTRT operates on a unified networking and security framework that fully supports its operational needs. "Fortinet enables our network to run consistently, reliably, and securely. Its best-in-market performance validates the investment we've made, providing clear justification for PRSTRT leaders. It also instills confidence and peace of mind," says Piovannetti.

Products

- FortiGate Next-Generation Firewall
- Fortinet Secure SD-WAN
- FortiSASE
- FortiSwitch
- FortiAP
- FortiMail
- FortiMail Workspace Security
- FortiSandbox
- FortiAuthenticator
- FortiAnalyzer

Service

- Fortinet SOC-as-a-Service

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The benefits are equally evident from a management perspective. “Bringing multiple solutions into a single platform allows the IT team to work more efficiently and make better use of their time. The Fortinet Security Fabric is also intuitive, which simplifies administration,” adds Ríos. These results have paved the way for future implementations, which can be seamlessly integrated into the Fortinet Security Fabric and potentially reduce costs to one-third of those charged by the current provider.

“We feel fully supported by the Fortinet team; they consistently provide excellent communication and strong alignment with our evolving needs. Combined with strong performance and robust security, it gives us full confidence in recommending Fortinet to other organizations looking to improve their security,” concludes Piovanetti.

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