Granite

FORTINET FEDERAL®

CASE STUDY

EXTEND YOUR NETWORKING RESOURCES WITH GRANITE MANAGED SERVICES

VM SD-WAN

Breaking from Legacy and Driving toward Best-in-class Networking Technology and Robust Security

SD-WAN

Also known as Virtual Machine Software-Defined Wide Area Networking, VM SD-WAN is a cutting-edge technology that revolutionizes traditional networking techniques. This innovative solution combines the power of software-defined networking (SDN) and virtualization to create a dynamic network infrastructure, enhancing performance and optimizing network resources. Designed to leverage the flexibility and scalability of virtual machines, VM SD-WAN enables businesses to establish secure connections across multiple sites, seamlessly integrating with existing network architectures. By abstracting the control and forwarding planes, organizations can enjoy enhanced agility, centralized management, and improved overall network performance.

The partnership between Granite and Fortinet Federal proved to be instrumental in delivering an unrivaled VM SD-WAN solution tailored for a federal agency. By combining Granite's networking expertise with Fortinet Federal's security capabilities, a holistic and secure network infrastructure was achieved. The successful implementation of this joint offering not only addressed the challenges faced by the agency but also provided numerous benefits in terms of security, performance, cost savings, and simplified management. This case study serves as a testament to the power of strategic partnerships in delivering innovative solutions that meet the unique needs of federal agencies.

Client Background:

The client for this case study is an independent agency of the executive branch of the United States federal government. The agency aims to provide excellent service to a large customer base. Operating in all 50 states, the agency manages thousands of locations in different geographic areas. Its extensive infrastructure is maintained by a large workforce of many thousands of employees.

This client understands the importance of proactively addressing challenges and staying ahead of the curve. They are actively exploring various technologies to ensure they can efficiently and effectively fulfill their mission. With their commitment to leveraging innovation, the client is poised to continue delivering exceptional service to their customers and fulfilling their mandate as a prominent agency within the United States federal government.

Challenge *The client's network was plagued by the following challenges:*

1. **Limited Scalability with Existing MPLS Network:**
   MPLS is an aging and expensive networking technology. It can be plagued with frequent failures and limits the ability to integrate modern technology. Despite this, Government officials have been reluctant to embrace newer networking alternatives with concerns for operational disruption, security, and the ability of SD-WAN to function with installed applications and services.
2. **MPLS is Cost-Restrictive**
   MPLS requires continual and significant investment in annual Operations & Maintenance (O&M) funds to support and requires the specialized expertise of an aging workforce. Any solution presented had to work within the tight capital budgets, which had long constrained the ability to invest in cost-efficient technologies for long-term savings.
3. **Hard-to-Service Locations**
   One of the nation's largest and most geographically dispersed agencies included centralized data centers to large distribution facilities to busy retail centers and thinly staffed rural branches. All of which needed greater visibility into network access, monitoring, and performance.

SOLUTION

To address these challenges and its goals, the agency decided to implement VM SD-WAN as the networking solution. VM SD-WAN provided a simplified, integrated security solution that works seamlessly with third-party products and legacy systems alike. This integrated approach eases the difficulty of a modernization transition while maintaining the operational capability and integrity of mission-essential systems.

Implementation

Granite flexedge

FortiGate-VM

1. Exhaustive Proof-of-Concept Process

Solution Engineers in conjunction with Fortinet Federal Engineers worked with the agency to explore multiple scenarios, validate savings and performance improvements, and ensure the agency's confidence in the project approach. The Network Design Service provided a dynamic and flexible network to optimize performance, reduce costs, and increase security.

2. Managed SD-WAN Architecture

The network architecture was redesigned around a Managed SD-WAN solution, which addressed the agency's need for centralized monitoring, reliability, and security. The complete end-to-end solution is backed by Granite's 24/7 Network Operations Center (NOC), which enables predictive performance, self-healing monitoring, and an automated response network with a 99.9% uptime SLA.

3. Consistency Across Locations

Technology upgrades drove consistency and cost-efficiency across all locations with Fortinet VM SD-WAN and Granite FlexEdge – a proprietary universal customer premise equipment (uCPE) solution, customized to meet specific applications. The deployment strategy enabled large-scale transition for high impact through rapid deployment with minimal operational disruption.

4. Seamless Transitions

The Trusted Internet Connection (TIC) initiative aims to enhance the security and efficiency of network connections for federal agencies. TIC 2.0, introduced in 2007, established guidelines for internet traffic to flow through consolidated access points, enabling better security and reduced costs. However, with the changing threat landscape and the emergence of cloud computing, TIC 3.0 was introduced to modernize and better align with the evolving needs of federal agencies. TIC 3.0 enables agencies to embrace the cloud securely, leverage emerging technologies, and streamline their network infrastructure. With TIC 3.0, agencies can have a more granular approach to security, allowing them to better defend against cyber threats and ensure the confidentiality, integrity, and availability of their data.

The exhaustion of available IPv4 addresses has necessitated the adoption of the Internet Protocol version 6 (IPv6). IPv6 offers a significantly larger address space and improved security features compared to IPv4. The expanded address space allows for the seamless connection of an ever-growing number of devices, enabling the Internet of Things (IoT) to thrive. Additionally, IPv6 simplifies network architectures, enhances end-to-end security, and improves network performance. This migration is crucial to ensure the continued growth and connectivity of devices, services, and networks.

RESULTS

1. **Efficient sourcing and configuration:**
   Despite the challenges posed by the supply chain crisis, Granite's Project Management and Logistics teams skillfully sourced and configured thousands of devices. These teams ensured that the installation process across diverse locations was executed smoothly, minimizing any potential business interruption

2. **Ahead of schedule roll-out:**
   Granite not only met but exceeded expectations by rolling out its solution to over 8,000 sites ahead of schedule. This achievement placed Granite at a faster pace compared to other vendors. As a testament to the exceptional performance, Granite was awarded several thousand additional sites to upgrade. This recognition was based on the flawless, on-time installations and the network's outstanding performance and reliability, surpassing the required Service Level Agreements (SLAs).

3. **Improved Business Continuity**
   By maintaining critical operations during network outages, Granite and Fortinet Federal's solution significantly enhanced the agency's business continuity strategy. This invaluable feature not only safeguarded vital operations but also contributed to heightened customer satisfaction.

4. **Cost savings:**
   Granite's solution has yielded impressive cost savings, with an average of 15% achieved across all sites. The optimization of resources and implementation of efficient processes have allowed Granite to deliver high-quality installations at a reduced cost.

5. **Comprehensive site support:**
   Granite manages site support including help desk, troubleshooting and, if necessary, deployment of trained technicians when on-site service is required, relieving the customer's burden and cutting maintenance response time from weeks to hours

6. **Recognized excellence:**
   In 2020, the customer awarded Granite with its national vendor appreciation award in recognition of the remarkable project performance. Furthermore, Granite's expertise was acknowledged by an invitation for a senior executive to sit on the customer's innovation council. This recognition not only reinforces Granite's industry leadership but also highlights its commitment to innovation and excellence.

CONCLUSION

In summary, the partnership between Granite and Fortinet Federal has showcased the power of strategic alliances in the federal sector. The groundbreaking VM SD-WAN solution, born out of this collaboration, has not only addressed the agency's challenges but has also delivered unprecedented security, performance, cost savings, and simplified management. Additionally, what this partnership has achieved for federal agencies is but a glimpse of the wider impact that strategic collaborations can have. Granite's success in actively seeking out such partnerships not only benefits federal agencies but also their commercial business customers. By embracing strategic partnerships, Granite continues to demonstrate its commitment to delivering cutting-edge solutions that drive innovation, address challenges, and propel organizations towards future success and this successful endeavor offers a blueprint for future partnerships, underscoring the paramount importance of collaboration and innovative thinking.