SOLUTION BRIEF

Secure SD-WAN for the Pharmaceutical Industry

Executive Summary

The continual creation of new digital technologies drives the rapid evolution in network security. As the pharmaceutical industry becomes more digitized, it also becomes more susceptible to cyberattacks. What's unique is that the pharma ecosystem comprises a number of subindustries, each with different business models and technology needs. Each player in the ecosystem must have access to and control extremely sensitive and valuable information, ensuring asset and resource security within an effective security framework.

Drug and device manufacturers as well as biotech companies have to retain, utilize, and share valuable proprietary data, such as secret formulas for patented drugs, protected patient health and customer information, and scientific research and advancements—and all are prime fodder for attacks.

Complicating the challenge further, many pharmaceutical companies rely on third-party vendors to carry out key operations, such as treatment clinics, insurance providers, and others along the supply chain that support things like manufacturing and distribution. Each of these vendors needs to adhere to the same set of protection principles as the home organization. The reach of endpoints and users causing more attack vectors, with the numerous and vast touchpoints of the industry, pose a constant vulnerability. Achieving complete visibility and coordination across the network to continuously monitor third-party vendors' cybersecurity is a daunting task.

While the pharmaceutical industry is undergoing rapid digital transformation, cyber adversaries are becoming increasingly adept at exploiting vulnerabilities and carrying out disruptive cyber campaigns. Cyberattacks, such as lucrative ransomware efforts, can have life-endangering results. Negative consequences can include contaminated drugs and stolen intellectual property. They can halt progressive clinical trials and damage an organization's reputation with downtime, litigation issues, and loss of revenue.

A secure software-defined wide-area networking (SD-WAN) solution addresses these issues by integrating networking and security capabilities across the WAN edge, access layer, and endpoints. In this way, Fortinet Secure SD-WAN and SD-Branch solutions are able to provide advanced visibility and protection for today's rapidly scaling and evolving pharma networks.

Simplify and Secure Network Infrastructures

In addition to the traditional attackers targeting enterprises across all market sectors, pharmaceutical companies are also often the specific targets of industrial espionage and nation-states. These adversaries are looking to gain access to valuable research and intellectual property. Cybercriminals often have better access to resources and funding. This makes the need for a comprehensive and integrated security strategy even more important.

To address the compounding issues of the expanding pharmaceutical network attack surface and corresponding increasing threat volume, pharma organizations need to begin by simplifying and securing their distributed network infrastructures.

Connections with remote locations such as clinics, vendors, digital and physical supply chains, and others must operate with minimal latency, and care should be taken that adversaries cannot penetrate a less secure off-premises site and then move laterally across the organization.

SD-WAN solutions can help secure these expanding pharma network perimeters. SD-WAN technology allows network traffic to move over more affordable public internet connections—as opposed to the traditional WAN's expensive multiprotocol label switching (MPLS) links. This can help ensure high-bandwidth connectivity for real-time communication and collaboration within the pharma ecosystem. However, these connections require an extra level of protection most traditional SD-WAN solutions are unable to provide.

Fortinet for Pharma

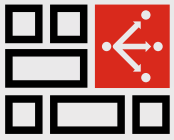
Because SD-WAN is a built-in capability of FortiGate next-generation firewalls (NGFWs), Fortinet Secure SD-WAN and Fortinet SD-Branch natively combine robust SD-WAN networking and our trailblazing enterprise-class security in a unified solution. This model, known as secure networking, was pioneered by Fortinet. It enables the rapid expansion of pharma networks and the scaling of operations to deliver high performance while ensuring that sensitive data, applications, and resources are inherently protected from even the most advanced cyberthreats.

The model is further augmented by the Fortinet Security Fabric, which ties distributed security, networking, and connectivity functions together into a single security platform. This approach enables the Fortinet Secure SD-WAN and SD-Branch solutions to seamlessly support local-area network (LAN) edge consolidation as well as integration with wireless access points (APs), switches, and endpoint security to extend security from the connection point to deep inside the local branch LAN. In addition to simplifying and unifying infrastructure, Fortinet SD-Branch provides efficient protection and consistent policy enforcement across all branch outposts by enabling such things as access control, Internet of Things (IoT) security, and traffic inspection. All of this is managed and orchestrated through a single-pane-of-glass management system.

Fortinet Secure SD-WAN solutions can help revolutionize the pharmaceutical industry's capabilities by transforming the corporate WAN through leveraging multi-cloud connectivity to deliver high-speed application performance at the WAN edge or branch, to research labs and clinics, and at every touchpoint along the supply chain—without ever compromising on security.

Critical use cases include:

1. Providing multi-cloud connectivity support and integration to accelerate cloud adoption
2. Enabling accelerated and secure access to critical business applications and resources residing in the cloud
3. Increasing resiliency, thereby ensuring high availability of critical asset routing across locations by providing and maintaining secure multi-WAN connections
4. Reducing the total cost of ownership (TCO) of WAN connections while supporting large data flows through high-bandwidth applications



Advanced SD-WAN monitoring from Fortinet's enables an improved digital experience. Digital experience can be affected by many variables, including the performance of end-user devices, Wi-Fi, LANs, WAN, ISPs, cloud service providers, infrastructure, applications, and more. Early insight into performance degradation of any variable in the chain can be the difference between addressing an issue before the business is impacted or suffering the loss of employee productivity, customer satisfaction, or revenue.[1]

Self-healing Capabilities and Resiliency

As pharma enterprises adopt SD-WAN and SD-Branch, they need the right tools to seamlessly deploy and manage them across widely distributed infrastructures. The Fortinet Secure SD-WAN, running on optimized FortiGate appliances, provides self-healing connection capabilities through adaptive WAN remediations, making the application experience much more resilient.

The entire suite of Fortinet Security Fabric solutions, including Secure SD-WAN and SD-Branch, can be administered through FortiManager, a single intuitive and unified management console. It includes options for a cloud-based or hosted solution for remote control and orchestration across thousands of locations. With FortiManager, FortiGate devices are truly plug and play, and centralized policies and device information can all be configured and orchestrated with FortiManager. And every FortiGate device is also continually and automatically updated to the latest policy configuration.

Total Cost of Ownership

The Fortinet approach reduces both capital expenses (CapEx) and operating expenses (OpEx) for healthcare organizations by consolidating security and networking infrastructure into a simplified and secure all-in-one solution. Fortinet SD-Branch further integrates firewalls, switches, and APs into a single, consolidated solution. This simplified architecture reduces the need for on-site IT resources, which in turn lowers operating costs and TCO.

The Right Dosage for the Pharma Industry

As pharmaceutical networks increasingly depend on digital innovations to complete the important work of enhancing and saving human lives, cybersecurity issues will unfortunately also increase. As natural extensions of the integrated Fortinet Security Fabric architecture, Fortinet Secure SD-WAN and SD-Branch solutions provide a secure platform for today's increasingly distributed and complex organizations—providing visibility and protection across the entire network, and all of the devices that connect to it.

[1] Jane Wasson, Improve Digital Experience with Advanced SD-WAN Monitoring from Fortinet, Fortinet, February 6, 2023

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