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Integrating Networking with Security Improves Customer Experience for Large Restaurant Chain

Some restaurant chains build cookie-cutter establishments. They generate a blueprint that optimizes operational efficiency, then construct restaurants with the same floorplan, materials, look, and feel. This approach may be cost-effective but does not provide much leeway for uniqueness or flair.

One British company takes the opposite approach. It operates nearly 1,000 restaurants, which vary widely in construction and character. Some are located in modern spaces, where networking is seamless. Others occupy older buildings with thick stone walls, creating physical barriers to wireless communications. This connectivity challenge became top-of-mind for the company's management team when they started looking at rolling out a new app.

Even before the COVID-19 pandemic wreaked havoc on the food-service industry, this organization began piloting an app that would enable patrons to place orders using their mobile devices while in the company's restaurants. An experiment that should have streamlined the customer experience led to significant frustrations, as it demonstrated deficiencies in the Wi-Fi coverage at many of the company's restaurants.

At the time, the restauranteur's wireless networking relied on different vendors and service providers from those supporting the rest of each location's LAN. The Wi-Fi was clearly not meeting the organization's needs, and the lean central IT team, which includes just one network engineer, had difficulty troubleshooting wireless connectivity issues across hundreds of locations. So, the management team began researching their options for developing a converged network in which Wi-Fi would tie into each restaurant's core networking and security fabric.

Standardizing on the Fortinet Security Fabric Across Nearly 1,000 Restaurants

When the company began exploring Wi-Fi alternatives, management was immediately impressed with Fortinet. Demonstrating the convergence between Fortinet's LAN networking solutions, SD-WAN, and network security struck a chord. Decision-makers in the restaurant company understood how the tight integration and single-pane-of-glass management among FortiGate Next-Generation Firewalls (NGFWs), FortiSwitch secure Ethernet switches, and FortiAP secure access points would enhance the ability of the central IT team to manage the dispersed network.

The company also liked Fortinet's high availability (HA) options for minimizing network downtime in each location. It needed to ensure uninterrupted connectivity for not only the mobile ordering app but also traditional point-of-sale systems and the IoT devices in each restaurant's kitchen, which range from smart sensors on appliances such as refrigerators to devices that monitor stock levels and request inventory purchases as needed. The company further wanted to improve control of and visibility into traffic to and from the IoT devices.

Accessing information about a restaurant's LAN, SD-WAN, wireless networking, switching, and security in one Fortinet Security Fabric dashboard accelerates threat detection and mitigation across the board.

Details

Industry: Food & Beverage

Headquarters: United Kingdom

Business Impact

- Faster and more reliable in-restaurant networks

- Better customer experience in using new mobile-order app and other digital innovations

- Improved security posture across nearly 1,000 restaurants

- Streamlined addition of new restaurants to the growing chain

The restaurant chain launched a pilot project with FortiGates, FortiSwitches, and FortiAPs in six locations. The pilot went well, and the company decided to standardize the Fortinet Security Fabric and Fortinet Secure SD-WAN. The pilot project was so successful that restaurants not included in the initial group began pushing to get their Fortinet infrastructure ahead of the corporate rollout schedule.

Today, deployment is complete in almost all locations. Each of the company's smaller restaurants has one FortiGate, plus a FortiSwitch and FortiAPs. Each larger restaurant has an HA pair of FortiGates in addition to the switches and access points. Across every restaurant, the LAN is divided into four segments: One SSID provides patrons with internet connectivity, in part so that they can access the mobile-ordering app, while another gives authorized employees access to business applications. A third network segment provides connectivity for all the onsite IoT devices , and a fourth houses the location's point-of-sale (POS) system.

Whether wired or wireless, traffic within each of these network segments stays completely separate from the others, keeping corporate data and POS systems secure. Fortinet's platform approach for Secure Networking ensures that this segmentation is maintained and auditable. From both a manageability and a price perspective, this approach represents a tremendous improvement over the company's legacy segmentation practice: building three separate networks with three separate sets of hardware for each location.

Fortinet Secure SD-WAN provides load balancing across each location's network connections, enforcing the IT team's prioritization rules, which give business-critical applications precedence anytime bandwidth is limited. As an external cellular gateway, FortiExtender provides 5G/LTE connectivity as a backup link in case a site's primary internet connections fail. The flexible deployment of FortiExtender allows for optimal signal without lengthy and lossy antennae cables. And the FortiAuthenticator user-authentication tool provides access control across all the network segments except for the open guest network.

All the FortiGates are backed by the FortiGuard AI-Powered Security Services Enterprise Protection Bundle. In addition to standard security services, such as the package's application control and web filtering capabilities, the company is leveraging the FortiGuard Attack Surface Security Service. This service continuously monitors the company's Fortinet Security Fabric infrastructure, assessing solutions' performance and developing an overall rating of the company's security posture. In addition to other benefits, the FortiGuard Attack Surface Security Service enables the central IT team to continuously discover and monitor all IoT devices on the network, identify any vulnerabilities they may have, and understand the risk the IoT systems pose to the organization.

Solutions

- FortiGate Next-Generation Firewall
- Fortinet Secure SD-WAN
- FortiSwitch
- FortiAP
- FortiExtender
- FortiAuthenticator
- FortiManager
- FortiAnalyzer

Services

- FortiGuard AI-Powered Security Services Enterprise Protection Bundle

Being able to efficiently and effectively segment traffic so that payment systems cannot touch corporate, IoT, or customer traffic has greatly enhanced every restaurant's security posture.

Simplifying Network Troubleshooting and Corporate Growth

An external managed security service provider (MSSP) uses the FortiManager management platform and FortiAnalyzer analytics tool to oversee the company's network day to day. The Fortinet management solutions have proven extremely helpful, since restaurant managers often have only cursory information about any network issues they experience. The centralized visibility into network events and performance helps with troubleshooting.

To that end, the restaurant company is considering also deploying FortiAIOps, an artificial intelligence with machine learning (AI/ML) solution for Fortinet networks. FortiAIOps leverages AI/ML to accelerate the identification and diagnosis of network anomalies. With Fortinet's converged platform approach, FortiAIOps is able to easy source information from the FortiGates themselves. For example, FortiAIOps might access Level 1 information, such as full RF spectrum analysis, to understand interference on a Wi-Fi network. It might also access Layer 7 information to see what applications are traversing Ethernet or SD-WAN connections.

FortiManager simplifies the process of deploying new networking hardware in sites where no employees have technical expertise. For a restaurant chain that is constantly adding locations, streamlining the activation of new locations is an important competitive advantage.

Building a Better Customer Experience through Network Performance and Security

Although improving network security was not initially a key driver of the transition to Fortinet solutions, it has turned out to be one of the main benefits of the project. Being able to efficiently and effectively segment traffic so that payment systems cannot touch corporate, IoT, or customer traffic has greatly enhanced every restaurant's security posture.

Using FortiManager across the Fortinet Security Fabric solutions gives the MSSP visibility that would enable them to respond much faster should a security event occur. In its legacy environment, the company had one provider for LAN connectivity, a different provider for WAN connectivity, and a wide assortment of routers. Accessing information about a restaurant's LAN, SD-WAN, wireless networking, switching, and security on one unified management platform accelerates threat detection and mitigation across the board.

At the same time, insights that the FortiGates provide into network traffic are helping the company's IT team configure the Fortinet Security Fabric to optimize performance for all the organization's crucial applications. For example, when they are creating SD-WAN rules for traffic shaping, the team can see how much of the restaurant's bandwidth each application is consuming.

As a result, the performance of the restaurants' networks has improved significantly since the transition to the Fortinet Security Fabric. This is partly because of the U.K.'s move from the traditional public switched telephone network to a nationwide fiber service. However, it is also partly driven by the higher performance of the Fortinet devices at the heart of each LAN and by the ability of Fortinet Secure SD-WAN to steer traffic more efficiently across each restaurant's connections, whatever types of links they are.

The mobile-ordering app finally works as intended across all the chain's restaurants. Now, the company is exploring new angles of digital innovation for its business, such as tabletop devices enabling customers to pay directly at their convenience.

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