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CASE STUDY

Finnish Retail Chain Increases Resilience of 470 Convenience Stores With SD-WAN

R-kioski is an entrepreneur-driven convenience store chain offering food and drink as well as a wide range of everyday products and services.

Dating back to 1910, R-kioski was originally conceived by a group of Finnish publishers as a chain of railway station newsagents called "Rautatiekirjakauppa," which translates to "railway bookshop." From 2012, R-kioski has been part of family-owned Norwegian Reitan-group, Reitan Retail.

In 1958, after expansion to its range of venues as well as products, the business was rebranded to R-kioski and has since become a household name in Finland with around 470 convenience stores nationwide and a strong reputation for quality and affordability.

The Realization of an Opportunity

Having expanded its traditional product portfolio with an increasingly comprehensive range of electronic services, including mobile top-ups, travel reservations, event tickets, payment and withdrawal services, and lottery gaming, the business had become increasingly dependent on the IT and network infrastructure serving its franchisees.

This network, that had previously used multiprotocol label switching (MPLS) to link remote stores to the 100+ servers at the central data center and headquarters, had suffered from frequent outages as unforgiving Finnish weather conditions took its annual toll on communications cables.

So, when the previous MPLS contract came up for renewal, R-kioski saw an opportunity to find a more secure and reliable alternative and, after an extensive period of research and testing, chose Fortinet's Secure SD-Branch solution.

Replacing costly MPLS links with inexpensive broadband connections, and using the FortiGate's integrated software-defined wide-area networking (SD-WAN) capability to separate the secure data-center-bound traffic from local internet access, present an opportunity for substantial cost savings or, as in the case of R-kioski, an opportunity to double the number of links for the same overall cost.

The resulting network now connects each store with dual 4G connections from two independent mobile operators, so even in the event of a complete mobile outage from one service provider, connectivity is preserved, leading to enhanced service levels and a reduced support burden.

Converged Security and Networking

Integrating the SD-WAN technology of the FortiGate Next-Generation Firewall (NGFW) with the switched and wireless network access provided by FortiSwitch and FortiAP, Fortinet SD-Branch presents a secure, manageable, and highly cost-effective solution to the remote connectivity challenges of digital innovation.

"To provide the network resilience we were after, we needed link redundancy with at least two connections to each shop," explains Lauri Paatelainen, technology manager for R-kioski. "By moving to Fortinet's Secure SD-WAN solution, we were able to do this without increasing our overall communications costs."

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Details

Customer: R-kioski

Industry: Retail/Convenience

Location: Finland

Business Impact

- Improved resilience to network failure and attack

- Increased visibility and control by converging security, LAN, and WAN

- 30% to 40% reduction in calls to in-house service desk

"The most notable and easily measurable result of the new network has been a 30% to 40% reduction in the number of cases coming into our in-house service desk," notes Paatelainen.

Through the FortiOS operating system of the FortiGate NGFW, wired and wireless services are integrated into the security infrastructure, enabling Ethernet switch and wireless local-area network (WLAN) interfaces to be controlled with the same level of enforcement as firewall interfaces. This allows companies like R-kioski to converge their security and network access, dramatically increasing protection, visibility, and control.

With its purpose-built security processors, the FortiGate NGFW has the power needed to identify thousands of applications inside network traffic and apply deep inspection and granular policy enforcement. This ensures that all of R-kioski's traffic, whether from point-of-sale (POS) systems, card payments, security cameras or even the IP TV networks used for some of its gaming services, is easily processed, optimized, inspected, and protected against potential threats without introducing latency.

For added performance and threat protection, R-kioski configured the NGFWs to segment this branch traffic into eight separate virtual LANs.

The solution leverages external threat intelligence provided by FortiGuard Labs, which collates and processes the data from myriad anonymized sensors and over 200 global partners around the world using artificial intelligence and machine learning to identify unique features for both known and unknown threats.

The addition of FortiManager and FortiAnalyzer provides a consolidated network operations center (NOC) and security operations center (SOC) capability through a centralized window and interface through which Paatelainen and his team can monitor, analyze, and control their infrastructure to minimize the time needed for threat detection and mitigation, and to reduce security risks that might otherwise arise from misconfigurations.

Solutions

- FortiGate Secure SD-WAN
- Fortinet Secure SD-Branch
- FortiGate
- FortiSwitch
- FortiAP
- FortiManager
- FortiAnalyzer

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"The increased visibility and control over our network and its traffic has proven invaluable," adds Paatelainen. "It has also exposed some rather unusual and suspect behavior on our guest Wi-Fi networks that we were previously unaware of, and which we can now take steps to block."

Looking to the Future

Although the project was originally focused on increasing the overall network reliability, the transition to Fortinet's Secure SD-Branch has presented R-kioski with new opportunities for enhancing customer service and increasing resilience, not only to physical network failure but to the ever-growing risk of advanced cyber threats.

And should R-kioski decide to outsource SOC functions to a managed service provider, both FortiAnalyzer and FortiManager can provide all the necessary data collection and log forwarding to this third party while continuing to provide local network and security visibility and control.

"Through Fortinet's Secure SD-Branch solution, we have future-proofed our operations in a number of important ways," concludes Paatelainen. "In addition to increased security, the FortiSwitches at our remote branches can supply power over Ethernet, which, although we're not fully using today, we know to be a requirement in the near future. We also plan to optimize our use of FortiAnalyzer, which could reduce the time we spend on compliance audits and other manual reporting tasks."

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