FORTINET | **ONELAYER**

Fortinet and OneLayer Private LTE/5G Security Solution

End-to-End Cellular and IP Network Security to IoT and Other Devices Connected to a Private LTE/5G Network

Executive Summary

OneLayer and Fortinet have established a technology partnership to provide organizations with the security required for their LTE and 5G private networks. The integration of the OneLayer product with the FortiGate Next-Generation Firewall (NGFW) enabled through the Fabric-Ready Program in the Fortinet Open Fabric Ecosystem delivers an integrated security solution for private cellular networks, including real-time identification of all cellular devices, context-based segmentation, automatic policy enforcement, anomalous behavior detection and response in devices, and zero-trust device security.

The growing use of Internet-of-Things (IoT) devices and the evolution of LTE and 5G cellular technologies are leading many enterprises to deploy private cellular networks alongside their existing network infrastructure. Private networks enable new and innovative uses of connected devices, such as smart grids, drones' VR/AR, robotic arms control, autonomous guided vehicles, and more. But private cellular networks also introduce an entirely new set of network technologies, unfamiliar to enterprise security teams and incompatible with existing security techniques and tools.

Joint Solution

The partnership between Fortinet and OneLayer ensures safeguarding private cellular networks and IoT devices from threats that can compromise or distribute malicious malware, preventing lateral movement between the networks, as cellular networks are connected to the IT/OT networks.

Solution Components

OneLayer Platform

The OneLayer solution provides complete cellular device identification and threat prevention to IoT devices connected to a private LTE/5G network. This enables tracking of all activity and policy updates to secure the environment. With the OneLayer solution, organizations gain full asset management capabilities, get operational intelligence, and protect against cellular breaches through zero-trust segmentation.

FortiGate NGFW

FortiGate NGFW consolidates networking and security through a security-driven networking approach to deliver full visibility, the highest scalability, and advanced security to protect business-critical applications in the distributed, hybrid 5G ecosystem. A key part of securing private 5G networks, the FortiGate provides end-to-end 5G user plane security, secures 5G to multi-access edge computing (MEC) and external PDN connectivity, provides security segmentation in the MEC, and implements an OT security boundary within the 5G network.

Solution Components

- Fortinet FortiGate Next-Generation Firewall
- OneLayer Private LTE/5G Networks Security Platform

Solution Benefits

- Real-time identification and fingerprinting of all cellular network devices, including device type, location, activity, inter-networks identity matching, and more

- Context-based segmentation of the cellular network, leveraging device identification for automatic enforcement of existing and new corporate policies

- Unified policy application to a device regardless of the network it is connected to

- Granular visibility and control of user plane for timely detection of the anomalous behavior of cellular devices and traffic, and response and remediation of misconfigurations and malicious activities

Joint Solution Integration

The OneLayer platform integrates with the cellular packet core, both with the control and data planes. OneLayer OneID identifies and fingerprints the devices and correlates their cellular identifiers, such as IMEI and IMSI, to their IT network's identifiers, such as IP address and MAC, to enable the security of devices on the private cellular network, including those behind routers.

Device information is pulled from the 5G Core API, and the devices are fingerprinted and grouped by type. Device info (IPs and types) is shared with FortiGate NGFW, creating segmentation and security policies for enforcement between the cellular network and other enterprise networks. The FortiGate NGFW enables policies based on the device identity and context to mitigate unauthorized and abnormal access. OneLayer applies segmentation policies inside the cellular network to prevent lateral movement between cellular devices.
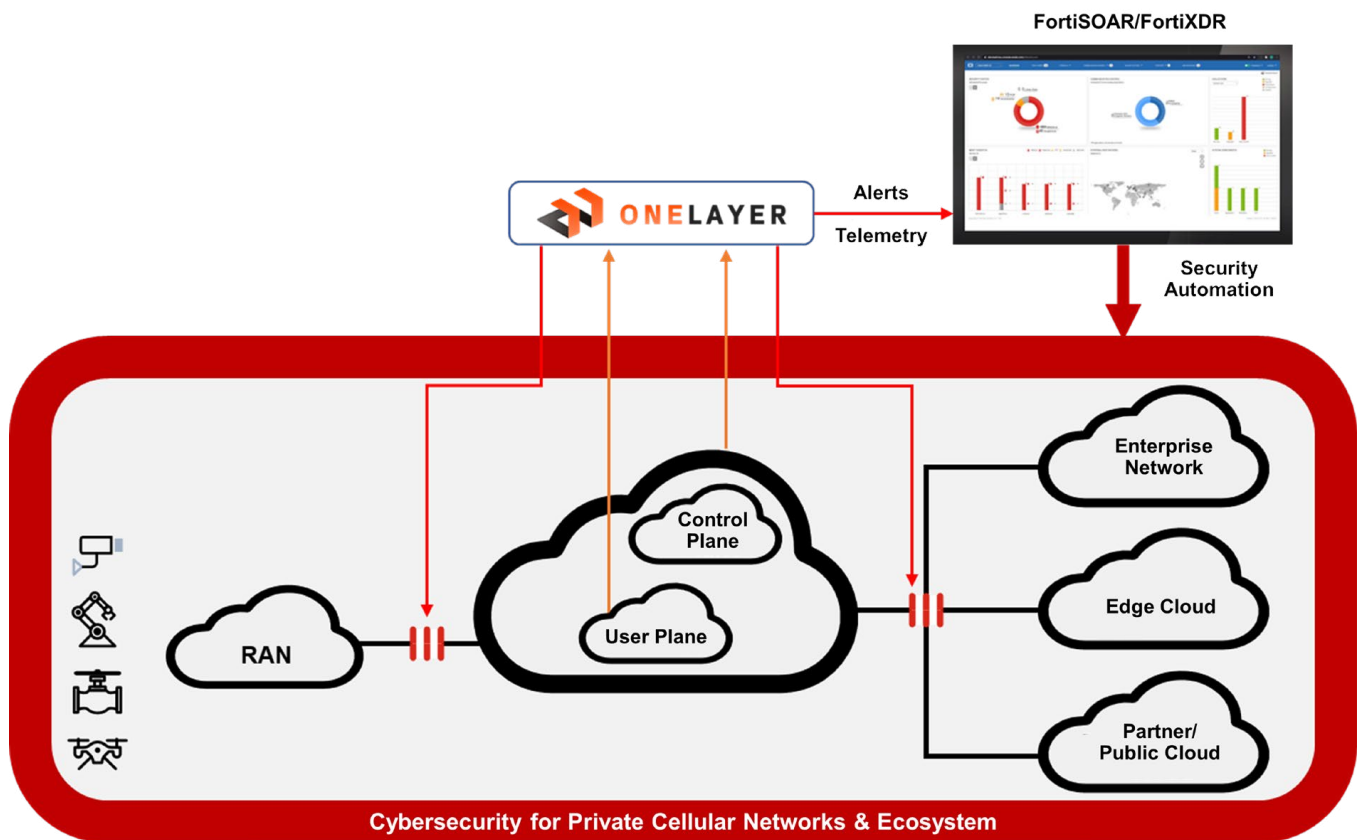

Figure 1: OneLayer platform integration with the FortiGate NGFW to protect private LTE/5G networks.

Joint Use Cases

Zero-Trust Segmentation for Private 5G

The joint solution allows the FortiGate NGFW to granularly and dynamically enforce policies on cellular devices as they enter the IP network, as per the zero-trust segmentation principles, and provide unparalleled security for private 5G networks and ecosystems.

Detection and Response in a Private Cellular Network

Once Fortinet detects malicious traffic from a cellular network, it acts quickly to stop, creates an event, and sends it to the OneLayer platform, which identifies the device responsible for the malicious traffic and the devices behind the routers and acts quickly to isolate the infected device. OneLayer then generates an event log about the compromised device and shares it with FortiXDR extended detection and response, which enables customers to predefine response flows and automate a coordinated response. OneLayer effectively eliminates the NAT blind spot created by the core cellular network.

About OneLayer

OneLayer brings complete cellular device identification and threat prevention to IoT and other devices connected to a private LTE & 5G network so any activity can be tracked and policies put in place to secure the environment. With OneLayer's solution, you'll gain full asset management capabilities, get operational intelligence, and protect against cellular breaches through zero-trust segmentation. OneLayer is dedicated to the private cellular networks' security domain. It enables enterprises to treat the new cellular network as another enterprise network without the need to be cellular experts.

To learn more about OneLayer, please visit https://one-layer.com/ or LinkedIn.

FÜRTINET®

www.fortinet.com