CHECKLIST

How to Protect an OT Network with a Next-Generation Firewall and Industrial Cybersecurity Service

Network segmentation with a next-generation firewall (NGFW) is a critical first step in securing an operational technology (OT) network. Industrial firewalls for OT networks typically demand a tough exterior while also containing specific controls and cybersecurity that meet the unique needs of industrial (non-IT) networks. Because networks and cybersecurity are not static, cybersecurity controls must be updated and refined to provide real-time protection for industrial and critical infrastructure in an ever-changing threat landscape. Below are five key considerations for choosing an industrial OT firewall.

☑ Ruggedized Firewalls for Harsh Industrial Environments

Ruggedized firewalls are designed to withstand heat, cold, dust, vibration, and other severe environmental conditions. Fortinet is a leader in traditional and ruggedized NGFWs. Built on patented custom ASICs with true networking and security convergence, FortiGate NGFWs deliver the fast performance, protection, and power efficiency required for mission-critical networks.

☑ NGFWs for Advanced OT Security

Unlike traditional firewalls that only control traffic based on ports, protocols, sources, and destination addresses, NGFWs have more layers of security, including an intrusion prevention system (IPS) that uses deep packet inspection (DPI) to analyze the communication traffic for malicious malware by matching known malware packets or signatures to a constantly evolving library of malicious signatures. NGFWs are central to Fortinet IT and OT network security solutions and integrated into the Fortinet Security Fabric to provide a converged security solution. Because the security landscape is constantly growing and evolving, a cybersecurity service must stay continuously updated with the latest global threats.

☑ Intrusion Prevention Systems Built for OT

Common to industrial networks, OT devices such as human-machine interfaces (HMIs), programmable logic controllers (PLCs), and physical sensors and actuators are common in industrial networks. These industrial networks and devices often communicate using unique communication protocols that are not used in IT networks. To provide a converged IT and OT security solution, security features like IPS must include both IT and OT signatures. With over 20 years of threat research and intelligence, the Fortinet FortiGuard Labs team develops and utilizes machine learning and artificial intelligence technology to deliver industry-leading IPS. Fortinet provides both IT and OT IPS security as part of our NGFW portfolio.

☑ Advanced Application Control for OT Protects Insecure-by-Design PLCs

Most PLCs lack standard security mechanisms, such as authentication, authorization, and encryption. Industrial application control, or commands between OT devices, is an advanced industrial cybersecurity feature that can block specific commands or parameter changes to devices. Application control provides added cybersecurity and also prevents inadvertent operator actions that could lead to production interruptions or a safety incident. Fortinet is dedicated to OT security by providing both IPS and unique, OT-specific application control signatures, which are provided as part of the Fortinet OT Security Service.

Integrated Network and Cybersecurity Across OT and IT

Industrial companies have network and cybersecurity challenges that affect both IT and OT. The lack of vendor consolidation places a tremendous burden on industrial companies. Managing separate solutions from different vendors has an impact on budgets, resources, and operations centers. Fortunately, Fortinet provides IT and OT network and cybersecurity solutions integrated with the Fortinet Security Fabric and the Fortinet OT-Aware Security Platform. This single, consolidated platform makes it easy to deploy, configure, and enforce security across all attack surfaces.

Security for IT and OT

IT and OT leadership must mitigate risk for IT and OT. Each threat landscape is different, and funding, resourcing, and managing separate networks is expensive and inefficient. Fortinet provides IT and OT integrated solutions to mitigate costs and risks across an industrial company's entire network.

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