

Securing Air Transportation

Fortinet Cybersecurity Enables and Protects Air Transportation 4.0

Challenges

Airport operators, airlines, and aircraft manufacturers are embracing Air Transportation 4.0 by modernizing systems to improve flight safety, efficiency, reliability, and the customer experience.

The 4.0 digital transformation initiatives are essential to managing airline supply chain challenges, handling scheduling complexity, and improving efficiency by reducing fuel consumption and optimizing engine performance. Additionally, airport terminal operators are competing to provide a better customer and employee experience.

What does digital transformation mean for the airlines and terminal operators?

- Intelligent airline scheduling and routing systems to handle unexpected changes in available resources, passengers, and freight volumes
- Performance monitoring and digital twin technologies to optimize engine performance to reduce fuel consumption, reduce maintenance time, and improve safety
- Managing compliance with DO-178C, RTCA DO326A, DO355A, DO356A, and ARINC 811 cybersecurity standards and information security guidance
- Increased networking and connectivity to support new check-in, dining, and omnichannel marketing initiatives at airport terminals
- Enhanced employee and contractor security checkpoints at airports to meet health, safety, and security requirements
- New IT and IoT airport systems to support air traffic, baggage handling, point of sales, and airport administration technologies
- Intelligent and linked subsystems to support industrial and building automation, including fire, safety, HVAC, environmental, alarm, and monitoring systems

As airlines and operators implement digital transformation strategies, their onboard and ground-based systems naturally become more connected. As a result, the attack surface expands, increasing their vulnerability to cyber threats. Aircraft system security is critical given the high risk to human safety. Airport terminal networks are often comprised of separate physical networks, making visibility, control, and threat analysis more complicated.

Fortifying Air Transportation Cybersecurity

To support these new technologies and reduce the risk of adoption, the air transportation industry needs to rethink its security posture and move toward a seamless, comprehensive, and zero-trust cybersecurity strategy.

As airlines and operators adapt their IT and OT systems to accelerate digital transformation, they must also undergo a security transformation to protect against the evolving cyber threat landscape—the biggest risk to digital transformation.

Fortinet provides companies in the air transportation industry with a proactive and transformative approach to cybersecurity. It is called the Fortinet Security Fabric (Figure 1) and provides protection that is broad, integrated, and automated.



Highlights

- Comprehensive and unified security solution
- Robust visibility and protection
- Unified management
- Simplified deployment
- AI-driven threat intelligence
- Intelligent network segmentation
- Secure SD-WAN
- Safeguard critical infrastructure and OT/IT

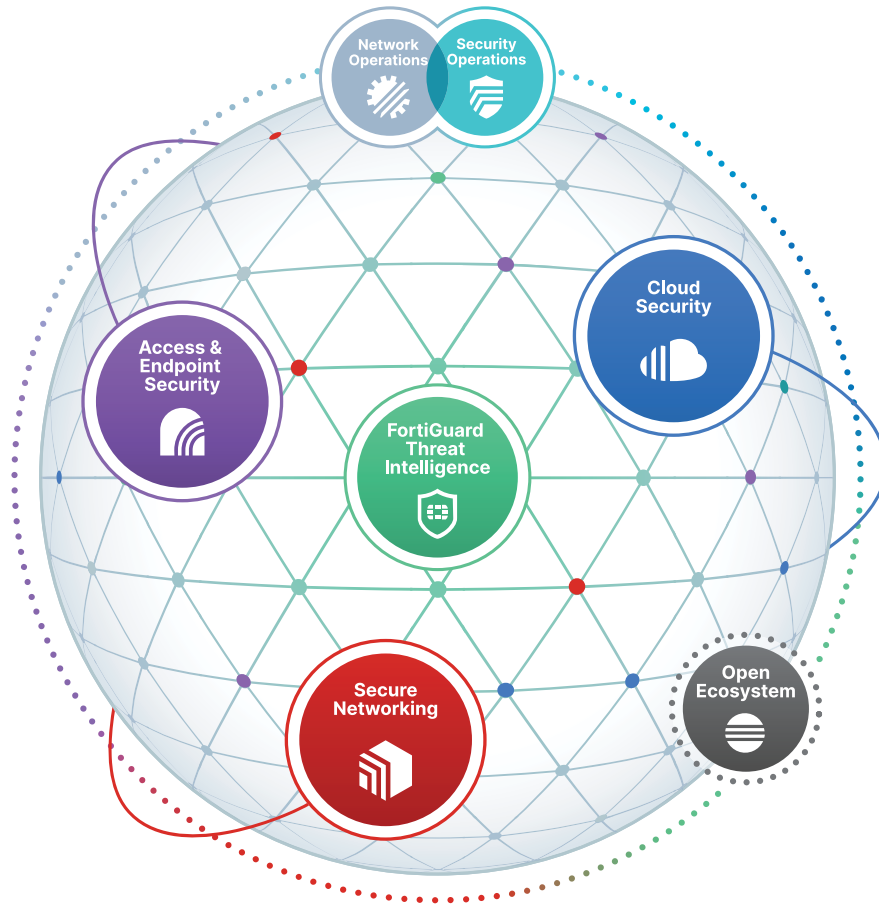


Figure 1: Fortinet Security Fabric.

Broad

Visibility and protection of the entire digital attack surface to better manage risk.

Integrated

Solution that reduces management complexity and shares threat intelligence.

Automated

Self-healing networks with AI-driven security for fast and efficient operations.

The Fortinet Security Fabric in Action for the Air Transportation Industry

From secure software-defined wide-area network (SD-WAN) access to intelligent network segmentation, the Fortinet Security Fabric ensures that critical resources and data are protected, business activities are uninterrupted, and operational costs optimized.



Single Box Solution

FortiGate firewall solutions are compact, cost-effective, all-in-one security appliances that reduce the complexity and risks of multivendor solutions. They include high-performance firewall, virtual private network (VPN) functionality, intrusion protection system (IPS), application control, URL filtering, antivirus, antispam, and integrated wired and wireless capabilities—and are easily managed via a single console.



Ease of Deployment

Fortinet's solution for the air transportation industry addresses one of the major issues in a shipping company's environment—easily deploying technology to multiple locations with no on-site expertise. Through the use of FortiDeploy, Fortinet's cloud-based deployment and management solution, remote systems can be easily and centrally configured. Once shipped to the remote location, all that is required is to plug in the cables and power it on.



Intelligent Network Segmentation

With Fortinet's solution, segmenting the network and devices is about assigning policies and managing risk:

Identify Risk: With Fortinet's intelligent segmentation, users, data, devices, locations, and a host of other criteria can be used to identify categories and assess risk.

Manage Policies and Devices: The Fortinet solution can provide the granularity to see all device activity and set policies appropriately. It also has the flexibility to set policies by type of device or by users and traffic type.

Exert Control: The Fortinet solution can secure critical network zones and grant device privileges, based on the risk profile, without compromising other segments of the network.



Unified Management

Day-to-day management of the Fortinet solution is simplified by a single-pane-of-glass management capability. Regardless of the mix of products or configuration at an individual site, all aspects of control and configuration are handled centrally to reduce complexity and improve day-to-day operations.



Secure SD-WAN

Fortinet makes it easy to deploy and manage the right security in the right place with our Secure SD-WAN solution. The solution links network and security paths across the world through the internet, 3G/4G/5G, or SATCOM links, making it a truly borderless infrastructure. It provides application visibility for encrypted traffic and smart load balancing that helps to reduce WAN cost without impacting the service-level agreement for business applications.



Real-time Actionable AI-driven Threat Intelligence

Powered by FortiGuard, Fortinet's solution for the air transportation industry receives tailored threat intelligence data to mitigate malicious activities. The consolidated architecture enables fast reaction times to security incidents. With each Fortinet appliance receiving security updates from FortiGuard, elements can rapidly exchange threat intelligence, ensuring that end-to-end, seamless security and coordinated actions are maintained for an automated response to threats. The power of FortiGuard is the culmination of people, in-house and patented technology, and experience.



Safeguarding Critical Infrastructure

The Fortinet solution unifies the best of current IT network security capabilities with an extensive understanding of the OT world and its processes and protocols by providing:

- Zero-trust network access
- Secure physical to digital transformation
- Top-rated, industrial-control-specific protection from advanced threats
- Broad visibility
- Integrated detection
- Automated response

Fortinet for the Air Transportation Industry

Fortinet solutions are designed to provide a consistent approach to security across air and ground-based systems. Our zero-touch deployments and seamless integration of multiple technologies is critical for efficient day-to-day operations. Connectivity is at the heart of the air transportation environment—wireless and wired networks must be secure, reliable, and easy to deploy and manage. Providing the visibility, control, and threat intelligence across these networks is essential to protecting aircraft and terminal operations systems while ensuring a smooth customer experience with minimal delays and strong data privacy.

Summary

- Fortinet's solutions allow air transportation companies to ensure aircraft safety and secure terminal operations. Once in place, these solutions provide a platform for future growth with minimum disruption. Securing Air Transportation 4.0 is essential to passenger safety, reliability, and evolving the customer experience.



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