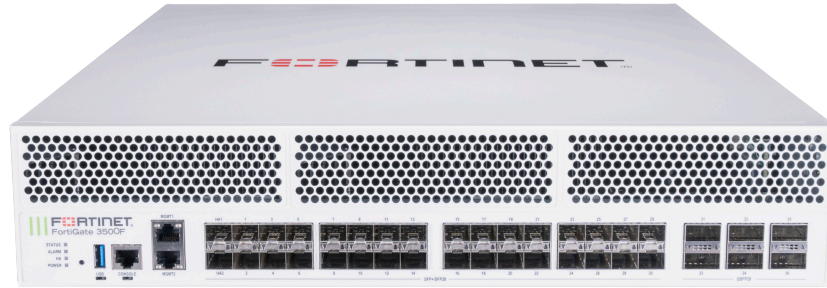


**DATA SHEET**

# FortiGate® 3500F Series

FG-3500F and FG-3501F

**Next Generation Firewall  
Segmentation  
Secure Web Gateway  
IPS  
Mobile Security**



The FortiGate 3500F series delivers high performance next generation firewall (NGFW) capabilities for large enterprises and service providers. With multiple high-speed interfaces, high-port density, and high-throughput, ideal deployments are at the enterprise edge, hybrid data center core, and across internal segments. Leverage industry-leading IPS, SSL inspection, and advanced threat protection to optimize your network’s performance. Fortinet’s Security-Driven Networking approach provides tight network integration to the new security generation.

**Security**

- Identifies thousands of applications inside network traffic for deep inspection and granular policy enforcement
- Protects against malware, exploits, and malicious websites in both encrypted and non-encrypted traffic
- Prevent and detect against known and unknown attacks using continuous threat intelligence from AI-powered FortiGuard Labs security services

**Performance**

- Delivers industry’s best threat protection performance and ultra-low latency using purpose-built security processor (SPU) technology
- Provides industry-leading performance and protection for SSL encrypted traffic

**Certification**

- Independently tested and validated best security effectiveness and performance
- Received unparalleled third-party certifications from NSS Labs

**Networking**

- Delivers advanced networking capabilities that seamlessly integrate with advanced layer 7 security and virtual domains (VDMs) to offer extensive deployment flexibility, multi-tenancy and effective utilization of resources
- Delivers high-density, flexible combination of various high-speed interfaces to enable best TCO for customers for data center and WAN deployments

**Management**

- Includes a management console that is effective, simple to use, and provides comprehensive network automation and visibility
- Provides Zero Touch Integration with Security Fabric’s Single Pane of Glass Management
- Predefined compliance checklist analyzes the deployment and highlights best practices to improve overall security posture

**Security Fabric**

- Enables Fortinet and Fabric-ready partners’ products to provide broader visibility, integrated end-to-end detection, threat intelligence sharing, and automated remediation

Firewall	IPS	NGFW	Threat Protection	Interfaces
<b>595 Gbps</b>	<b>72 Gbps</b>	<b>65 Gbps</b>	<b>63 Gbps</b>	Multiple GE RJ45, 25 GE SFP28 / 10 GE SFP+ / GE SFP and 100 GE QSFP28 / 40 GE QSFP+ slots

Refer to specification table for details

## DEPLOYMENT



### Next Generation Firewall (NGFW)

- Reduce the complexity and maximize your ROI by integrating threat protection security capabilities into a single high-performance network security appliance, powered by Fortinet's Security Processing Unit (SPU)
- Full visibility into users, devices, applications across the entire attack surface and consistent security policy enforcement irrespective of asset location
- Protect against network exploitable vulnerabilities with Industry-validated IPS security effectiveness, low latency and optimized network performance
- Automatically block threats on decrypted traffic using the Industry's highest SSL inspection performance, including the latest TLS 1.3 standard with mandated ciphers
- Proactively block newly discovered sophisticated attacks in real-time with AI-powered FortiGuard Labs and advanced threat protection services included in the Fortinet Security Fabric



### Segmentation

- Segmentation that adapts to any network topology, delivering end-to-end security from the branch level to data centers and extending to multiple clouds
- Reduce security risks by improving network visibility from the components of the Fortinet Security Fabric, which adapt access permissions to current levels of trust and enforce access control effectively and efficiently
- Delivers defense in depth security powered by high-performance L7 inspection and remediation by Fortinet's SPU, while delivering third party validated TCO of per protected Mbps
- Protects critical business applications and helps implement any compliance requirements without network redesigns



### Secure Web Gateway (SWG)

- Secure web access from both internal and external risks, even for encrypted traffic at high performance
- Enhanced user experience with dynamic web and video caching
- Block and control web access based on user or user groups across URL's and domains
- Prevent data loss and discover user activity to known and unknown cloud applications
- Block DNS requests against malicious domains
- Multi-layered advanced protection against zero-day malware threats delivered over the web



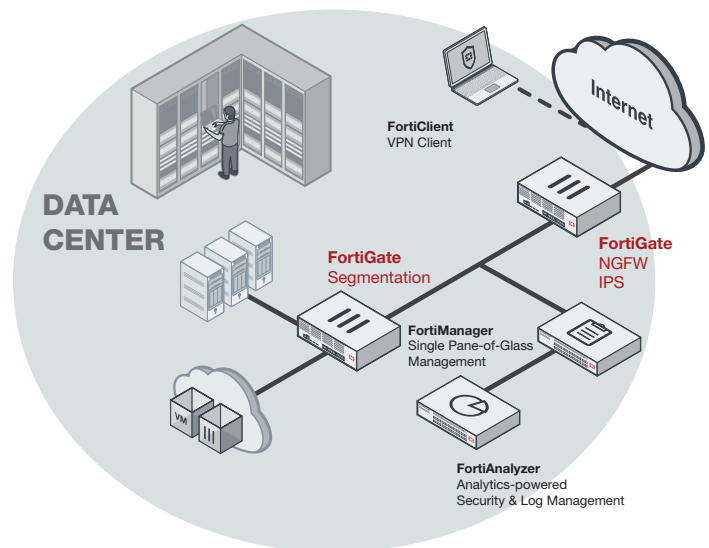
### IPS

- Purpose-built security processors delivering industry validated IPS performance with high throughput and low latency
- Deploy virtual patches at the network level to protect against network exploitable vulnerabilities and optimize network protection time
- Deep packet inspection at wire speeds offers unparalleled threat visibility into network traffic including traffic encrypted with the latest TLS 1.3
- Proactively block newly discovered sophisticated attacks in real-time with advanced threat protection provided by the intelligence services of the Fortinet Security Fabric



### Mobile Security for 4G, 5G, and IOT

- SPU accelerated, high performance CGNAT and IPv4 and IPv6 traffic, for 4G SGI LAN and 5G N6 security
- RAN Access Security with highly scalable and best performing IPsec aggregation and control security gateway (SecGW)
- User plane security enabled by full Threat Protection and visibility into GTP-U inspection
- 4G and 5G security for user and data plane traffic SCTP, GTP-U/C and SIP that provides protection against attacks
- 4G and 5G cores IoT signaling storm protection
- High-speed interfaces to enable deployment flexibility

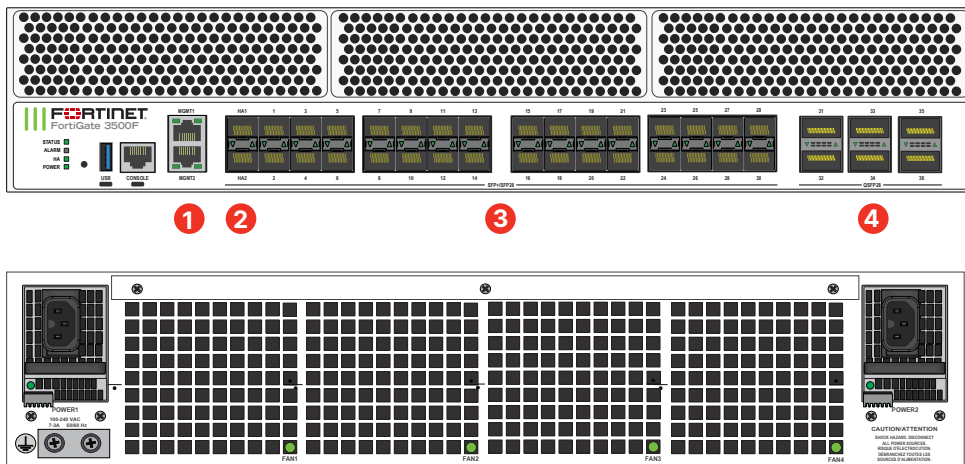


**Data Center Deployment (IPS/NGFW, Intent-based Segmentation)**



# HARDWARE

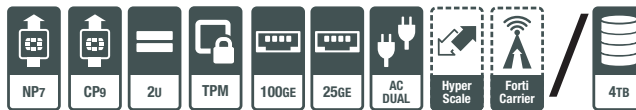
## FortiGate 3500F and 3501F



### Interfaces

1. 2× 10GE/ GE RJ45 Management Ports
2. 2× 25GE SFP28/ 10GE SFP+ HA Slots
3. 30× 25GE SFP28/ 10GE SFP+/ GE SFP Slots
4. 6× 100GE QSFP28/ 40GE QSFP+ Slots

### Hardware Features



### Hyperscale Firewall License

Empower organizations by unlocking further performance boosts with this perpetual license. The Hyperscale Firewall License will enable the hardware acceleration of CGNAT features by utilizing the latest SPU NP7. These features include hardware session setup, firewall session logging, and NAT.

#### Powered by SPU

- Fortinet’s custom SPU processors deliver the power you need to detect malicious content at multi-Gigabit speeds
- Other security technologies cannot protect against today’s wide range of content- and connection-based threats because they rely on general-purpose CPUs, causing a dangerous performance gap
- SPU processors provide the performance needed to block emerging threats, meet rigorous third-party certifications, and ensure that your network security solution does not become a network bottleneck

### Network Processor

Fortinet’s new, breakthrough SPU NP7 network processor works inline with FortiOS functions delivering:

- Superior firewall performance for IPv4/IPv6, SCTP and multicast traffic with ultra-low latency
- VPN, CAPWAP, and IP tunnel acceleration
- Anomaly-based intrusion prevention, checksum offload, and packet defragmentation
- Traffic shaping and priority queuing

### Content Processor

Fortinet’s ninth generation custom SPU CP9 content processor works outside of the direct flow of traffic and accelerates the inspection.

### Trusted Platform Module (TPM)

The FortiGate 3500F Series features a dedicated module that hardens physical networking appliances by generating, storing, and authenticating cryptographic keys. Hardware-based security mechanisms protect against malicious software and phishing attacks.



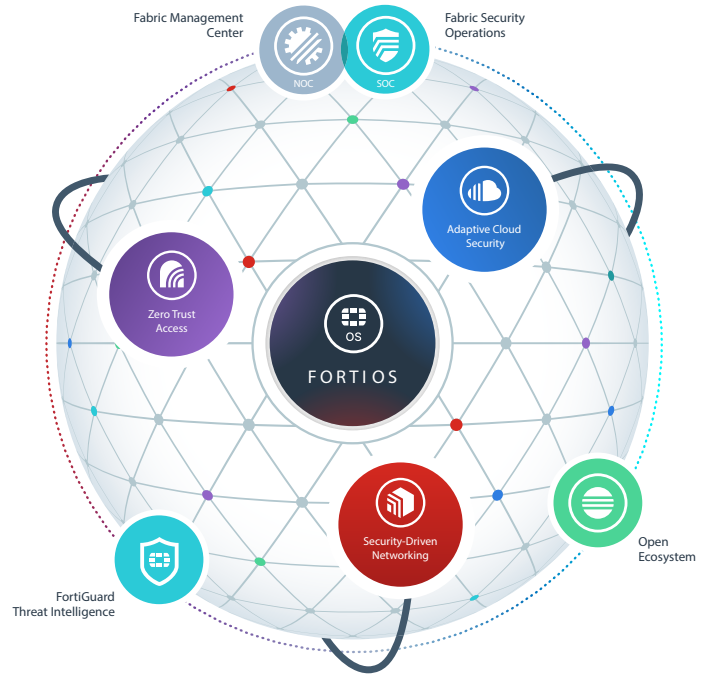
# FORTINET SECURITY FABRIC

## Security Fabric

The industry's highest-performing cybersecurity platform, powered by FortiOS, with a rich ecosystem designed to span the extended digital attack surface, delivering fully automated, self-healing network security.

- **Broad:** Coordinated detection and enforcement across the entire digital attack surface and lifecycle with converged networking and security across edges, clouds, endpoints, and users
- **Integrated:** Integrated and unified security, operation, and performance across different technologies, location, deployment options, and the richest ecosystem
- **Automated:** Context aware, self-healing network and security posture leveraging cloud-scale and advanced AI to automatically deliver near-real-time, user-to-application coordinated protection across the Fabric

The Fabric empowers organizations of any size to secure and simplify their hybrid infrastructure on the journey to digital innovation.



### FortiOS™ Operating System

FortiOS, Fortinet's leading operating system enable the convergence of high performing networking and security across the Fortinet Security Fabric delivering consistent and context-aware security posture across network endpoint, and clouds. The organically built best of breed capabilities and unified approach allows organizations to run their businesses without compromising performance or protection, supports seamless scalability, and simplifies innovation consumption.

The release of FortiOS 7 dramatically expands the Fortinet Security Fabric's ability to deliver consistent security across hybrid deployment models of Hardware, Software, and Software As-a-Service with SASE and ZTNA, among others.

## SERVICES

### FortiGuard™ Security Services

FortiGuard Labs offer real-time intelligence on the threat landscape, delivering comprehensive security updates across the full range of Fortinet's solutions. Comprised of security threat researchers, engineers, and forensic specialists, the team collaborates with the world's leading threat monitoring organizations and other network and security vendors, as well as law enforcement agencies.

### FortiCare™ Services

Fortinet is dedicated to helping our customers succeed, and every year FortiCare services help thousands of organizations get the most from their Fortinet Security Fabric solution. We have more than 1,000 experts to help accelerate technology implementation, provide reliable assistance through advanced support, and offer proactive care to maximize security and performance of Fortinet deployments.



# SPECIFICATIONS

	FG-3500F	FG-3501F
<b>Interfaces and Modules</b>		
Hardware Accelerated 100 GE QSFP28 / 40 GE QSFP+ Slots		6
Hardware Accelerated 25 GE SFP28 / 10 GE SFP+ / GE SFP Slots		32
10GE/ GE RJ45 Management Ports		2
USB Ports (Client / Server)		1 / 1
Console Port		1
Onboard Storage	—	2x 2TB SSD
Trusted Platform Module (TPM)		Yes
Included Transceivers		2x SFP+ (SR 10 GE)
<b>System Performance — Enterprise Traffic Mix</b>		
IPS Throughput <sup>2</sup>		72 Gbps
NGFW Throughput <sup>2,4</sup>		65 Gbps
Threat Protection Throughput <sup>2,5</sup>		63 Gbps
<b>System Performance and Capacity</b>		
IPv4 Firewall Throughput (1518 / 512 / 64 byte, UDP)		595 / 590 / 420 Gbps
IPv6 Firewall Throughput (1518 / 512 / 86 byte, UDP)		595 / 590 / 420 Gbps
Firewall Latency (64 byte, UDP)		2.98 µs
Firewall Throughput (Packet per Second)		630 Mpps
Concurrent Sessions (TCP)		140 Million / 348 Million*
New Sessions/Second (TCP)		1 Million / 5 Million*
Firewall Policies		200,000
IPsec VPN Throughput (512 byte) <sup>1</sup>		165 Gbps
Gateway-to-Gateway IPsec VPN Tunnels		40,000
Client-to-Gateway IPsec VPN Tunnels		200,000
SSL-VPN Throughput		16 Gbps
Concurrent SSL-VPN Users (Recommended Maximum, Tunnel Mode)		30,000
SSL Inspection Throughput (IPS, avg. HTTPS) <sup>3</sup>		55 Gbps
SSL Inspection CPS (IPS, avg. HTTPS) <sup>3</sup>		60,000
SSL Inspection Concurrent Session (IPS, avg. HTTPS) <sup>3</sup>		15 Million
Application Control Throughput (HTTP 64K) <sup>2</sup>		135 Gbps
CAPWAP Throughput (HTTP 64K)		65 Gbps
Virtual Domains (Default / Maximum)		10 / 500
Maximum Number of FortiSwitches Supported		300
Maximum Number of FortiAPs (Total / Tunnel)		4,096 / 2,048
Maximum Number of FortiTokens		20,000
High Availability Configurations		Active-Active, Active-Passive, Clustering

	FG-3500F	FG-3501F
<b>Dimensions and Power</b>		
Height x Width x Length (inches)	3.5 × 17.4 × 21.9	
Height x Width x Length (mm)	89 × 443 × 556	
Weight	43.8 lbs (19.9 kg)	45.3 lbs (20.6 kg)
Form Factor (supports EIA/non-EIA standards)	Rack Mount, 2 RU	
AC Power Supply	100–240V AC, 50/60 Hz	
Power Consumption (Average / Maximum)	760 W / 1174 W	765 W / 1181 W
AC Current (Maximum)	12A@120V, 9A@240V	
Heat Dissipation	4,006 BTU/h	4,030 BTU/h
Redundant Power Supplies	Yes, Hot Swappable	
<b>Operating Environment and Certifications</b>		
Operating Temperature	32–104°F (0–40°C)	
Storage Temperature	-31–158°F (-35–70°C)	
Humidity	20–90% non-condensing	
Noise Level	53.5 dBA	
Forced Airflow	Front to Back	
Operating Altitude	Up to 7,400 ft (2,250 m)	
Compliance	FCC Part 15 Class A, RCM, VCCI, CE, UL/cUL, CB	
Certifications	ICSA Labs: Firewall, IPsec, IPS, Antivirus, SSL-VPN, USGv6/IPv6	

\*Requires Hyperscale Firewall License

Note: All performance values are “up to” and vary depending on system configuration.

1. IPsec VPN performance test uses AES256-SHA256.
2. IPS (Enterprise Mix), Application Control, NGFW and Threat Protection are measured with Logging enabled.
3. SSL Inspection performance values use an average of HTTPS sessions of different cipher suites.

4. NGFW performance is measured with Firewall, IPS and Application Control enabled.
5. Threat Protection performance is measured with Firewall, IPS, Application Control and Malware Protection enabled.





## ORDERING INFORMATION

Product	SKU	Description
FortiGate 3500F	FG-3500F	6× 100GE/ 40GE QSFP28 slots and 32× 25GE/ 10GE SFP28 slots, 2× 10GE RJ45 Management Ports, SPU NP7 and CP9 hardware accelerated, and 2 AC power supplies.
FortiGate 3501F	FG-3501F	6× 100GE/ 40GE QSFP28 slots and 32× 25GE/ 10GE SFP28 slots, 2× 10GE RJ45 Management Ports, SPU NP7 and CP9 hardware accelerated, 4 TB SSD onboard storage, and 2 AC power supplies.
Optional Accessories/Spares	SKU	Description
Rack Mount Sliding Rails	SP-FG3040B-RAIL	Rack mount sliding rails for FG-1000C/-DC, FG-1200D, FG-1500D/DC, FG-3040B/-DC, FG-3140B/-DC, FG-3240C/-DC, FG-3000D/-DC, FG-3100D/-DC, FG-3200D/-DC, FG-3400/3401E, FG-3600/3601E, FG-3700D/-DC, FG-3700DX, FG-3810D/-DC and FG-3950B/-DC.
AC Power Supply	SP-FG3800D-PS	AC power supply for FG-2200/2201E, FG-3300/3301E, FG-3400/3401E, FG-3500/3501F, FG-3600/3601E, FG-3700D, FG-3700D-NEBS, FG-3700DX, FG-3810D and FG-3815D.
1 GE SFP LX Transceiver Module	FN-TRAN-LX	1 GE SFP LX transceiver module for all systems with SFP and SFP/SFP+ slots.
1 GE SFP RJ45 Transceiver Module	FN-TRAN-GC	1 GE SFP RJ45 transceiver module for all systems with SFP and SFP/SFP+ slots.
1 GE SFP SX Transceiver Module	FN-TRAN-SX	1 GE SFP SX transceiver module for all systems with SFP and SFP/SFP+ slots.
10 GE SFP+ RJ45 Transceiver Module	FN-TRAN-SFP+GC	10 GE SFP+ RJ45 transceiver module for systems with SFP+ slots.
10 GE SFP+ Transceiver Module, Short Range	FN-TRAN-SFP+SR	10 GE SFP+ transceiver module, short range for all systems with SFP+ and SFP/SFP+ slots.
10 GE SFP+ Transceiver Module, Long Range	FN-TRAN-SFP+LR	10 GE SFP+ transceiver module, long range for all systems with SFP+ and SFP/SFP+ slots.
10 GE SFP+ Transceiver Module, Extended Range	FN-TRAN-SFP+ER	10 GE SFP+ transceiver module, extended range for all systems with SFP+ and SFP/SFP+ slots.
10 GE SFP+ Active Direct Attach Cable, 10m / 32.8 ft	SP-CABLE-ADASFP+	10 GE SFP+ active direct attach cable, 10m / 32.8 ft for all systems with SFP+ and SFP/SFP+ slots.
25 GE SFP28 Transceiver Module, Short Range	FN-TRAN-SFP28-SR	25 GE SFP28 transceiver module, short range for all systems with SFP28 slots.
25 GE SFP28 Transceiver Module, Long Range	FG-TRAN-SFP28-LR	25 GE SFP28 transceiver module, long range for all systems with SFP28 slots.
40 GE QSFP+ Transceiver Module, Short Range	FN-TRAN-QSFP+SR	40 GE QSFP+ transceiver module, short range for all systems with QSFP+ slots.
40 GE QSFP+ Transceiver Module, Short Range BiDi	FG-TRAN-QSFP+SR-BIDI	40 GE QSFP+ transceiver module, short range BiDi for all systems with QSFP+ slots.
40 GE QSFP+ Transceiver Module, Long Range	FN-TRAN-QSFP+LR	40 GE QSFP+ transceiver module, long range for all systems with QSFP+ slots.
100 GE QSFP28 Transceivers, Short Range	FN-TRAN-QSFP28-SR	100 GE QSFP28 transceivers, 4 channel parallel fiber, short range for all systems with QSFP28 slots.
100 GE QSFP28 Transceivers, Long Range	FN-TRAN-QSFP28-LR	100 GE QSFP28 transceivers, 4 channel parallel fiber, long range for all systems with QSFP28 slots.
100 GE QSFP28 Transceivers, CWDM4	FN-TRAN-QSFP28-CWDM4	100 GE QSFP28 transceivers, LC connectors, 2KM for all systems with QSFP28 slots.

## BUNDLES



FortiGuard Labs delivers a number of security intelligence services to augment the FortiGate firewall platform. You can easily optimize the protection capabilities of your FortiGate with one of these FortiGuard Bundles.

Bundles	Enterprise Protection	Unified Threat Protection	Advanced Threat Protection
FortiCare	24×7	24×7	24×7
FortiGuard App Control Service	•	•	•
FortiGuard IPS Service	•	•	•
FortiGuard Advanced Malware Protection (AMP) — Antivirus, Mobile Malware, Botnet, CDR, Virus Outbreak Protection and FortiSandbox Cloud Service	•	•	•
FortiGuard Web and Video <sup>1</sup> Filtering Service	•	•	
FortiGuard Antispam Service	•	•	
FortiGuard Security Rating Service	•		
FortiGuard IoT Detection Service	•		
FortiGuard Industrial Service	•		
FortiConverter Service	•		

1. Available when running FortiOS 7.0



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