

FortiGate® 6000F Series

FortiGate 6300F, 6301F, 6500F and 6501F

Next Generation Firewall
Internal Segmentation Firewall
Data Center Firewall and IPS
Carrier-Class Firewall



The FortiGate 6000F series delivers high performance threat protection for large enterprises and service providers, with the flexibility to be deployed at the Internet or cloud edge, in the data center core or internal segments. The multiple high-speed interfaces, high port density, industry-leading security efficacy and high throughput of the 6000F series keeps your network connected and secure.

Security

- Protects against known exploits, malware and malicious URLs using continuous threat intelligence provided by FortiGuard Labs security services
- Protects against unknown attacks using dynamic analysis and provides automated mitigation to stop targeted attacks

Performance

- Next Generation of Fortinet Distribution Processors (DP3) introduces a revolutionary load balancing architecture providing both resiliency and ultra high connection rate support
- 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

Networking

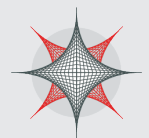
- Delivers extensive network interface flexibility with the first 1/10/25 G interface support in the industry
- With uplinks in typical data centers moving to 100 GE, the combination of 1/10/25 and 40/100 GE interfaces provides superior interface flexibility and TCO for customers

Management

- Single Pane of Glass with Network Operations Center (NOC) view provides 360° visibility to identify issues quickly and intuitively

Security Fabric

- Enables Fortinet and Fabric-ready partners' products to collaboratively integrate and provide end-to-end security across the entire attack surface



Model	FG-6300F/6301F	FG-6500F/6501F
Firewall	239 Gbps	239 Gbps
IPS	110 Gbps	170 Gbps
NGFW	90 Gbps	150 Gbps
Threat Protection	60 Gbps	100 Gbps
Network Interfaces	Multiple 40/100 GE QSFP28, 1/10/25 GE SFP28, 1/10 GE SFP+ and GE RJ45	Multiple 40/100 GE QSFP28, 1/10/25 GE SFP28, 1/10 GE SFP+ and GE RJ45

Refer to specification table for details

DEPLOYMENT



Next Generation Firewall (NGFW)

- Security gateway to the Internet for enterprises
- Enforce security policies with granular control and visibility of users and devices for thousands of discrete applications
- Identify and stop threats with powerful intrusion prevention beyond port and protocol that examines the actual content of your network traffic



Internal Segmentation Firewall (ISFW)

- Segmentation solution for end-to-end protection against threats while meeting compliance requirements
- High port density and accelerated traffic processing capacity, to protect multiple segments without compromising performance
- Deploy transparently and rapidly into existing environments with minimal disruption



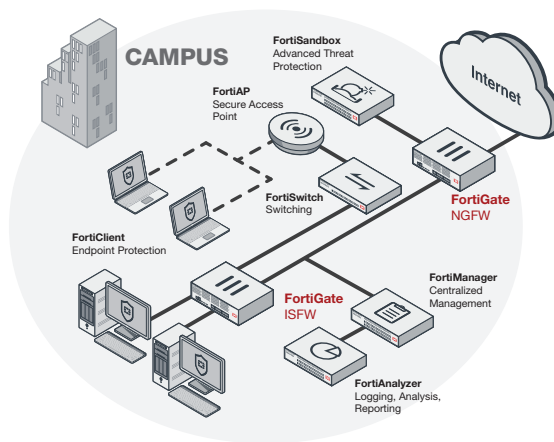
Data Center Firewall and IPS (DCFW-IPS)

- High availability, high throughput and low latency firewall for data center edge and core
- High session scale for accommodating large network and user traffic for Internet and cloud-facing data centers
- High-speed interfaces for future-proof connectivity while compact size contributes to greener data centers
- Performance optimized IPS engine to detect and deter latest known and zero day threats

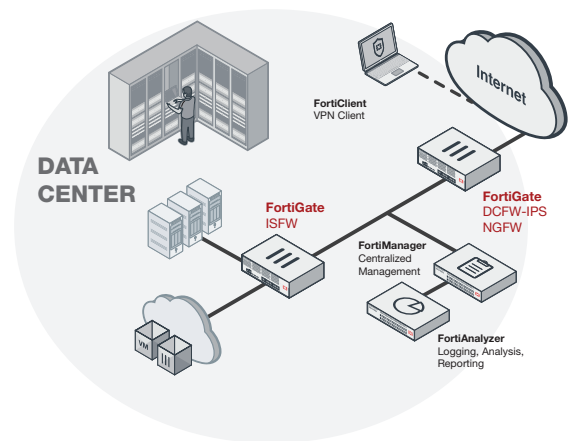


Carrier-Class Firewall (CCFW)

- Reliable high capacity firewall designed for service providers
- Powered by multiple SPU Network Processors that accelerate processing for both IPv4 and IPv6 traffic
- Supports Carrier License upgrade that unlocks features and protocol support for mobile networks such as GTP and SCTP
- High-speed interfaces for future-proof connectivity



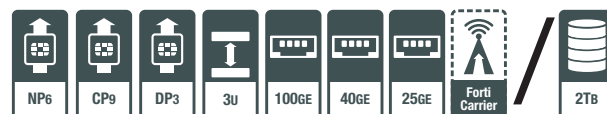
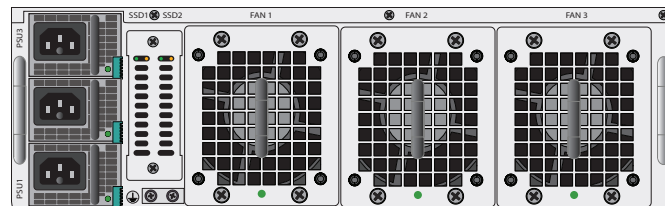
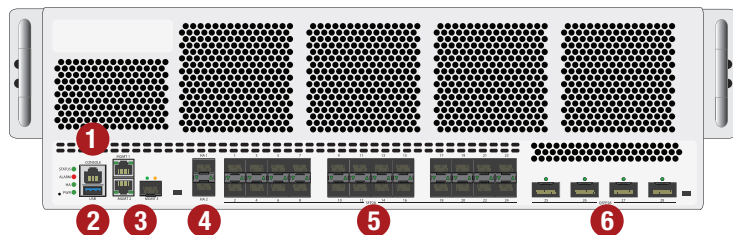
FortiGate 6300F/6500F deployment in large campus networks (NGFW, ISFW)



FortiGate 6300F/6500F deployment in data center (DCFW-IPS/NGFW, ISFW)

HARDWARE

FortiGate 6300F/6301F/6500F/6501F



Interfaces

1. Console Port
2. USB Port
3. 2x GE RJ45, 1x 1/10 GE SFP+ Management Ports

4. 2x 10 GE SFP+ HA Slots
5. 24x 1/10/25 GE SFP28 Slots
6. 4x 40/100 GE QSFP28 Slots

Powered by SPU

- 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 NP6 network processor works inline with FortiOS functions delivering:

- Superior firewall performance for IPv4/IPv6, SCTP and multicast traffic with ultra-low latency down to 2 microseconds
- VPN and IP tunnel acceleration
- Anomaly-based intrusion prevention, checksum offload and packet defragmentation
- Traffic shaping and priority queuing

Content Processor

Fortinet's new, breakthrough SPU CP9 content processor works outside of the direct flow of traffic and accelerates the inspection of computationally intensive security features:

- Enhanced IPS performance with unique capability of full signature matching at SPU
- SSL Inspection capabilities based on the latest industry mandated cipher suites
- Encryption and decryption offloading

Distribution Processor

Fortinet's SPU DP3 distribution processor provides hardware load balancing for traffic to multiple processing units.

FORTINET SECURITY FABRIC

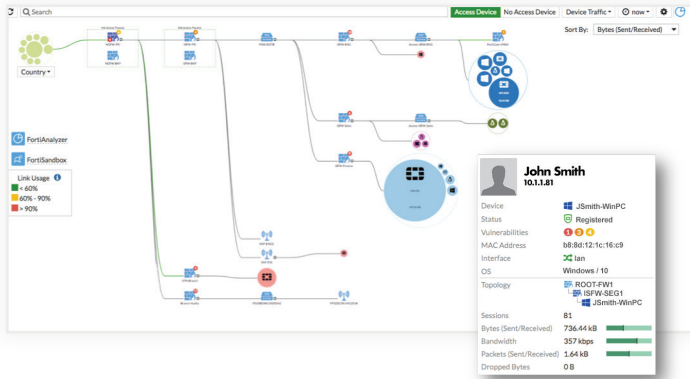
Security Fabric

The Security Fabric allows security to dynamically expand and adapt as more and more workloads and data are added. Security seamlessly follows and protects data, users, and applications as they move between IoT, devices, and cloud environments throughout the network.

FortiGates are the foundation of Security Fabric, expanding security via visibility and control by tightly integrating with other Fortinet security products and Fabric-Ready Partner solutions.

FortiOS

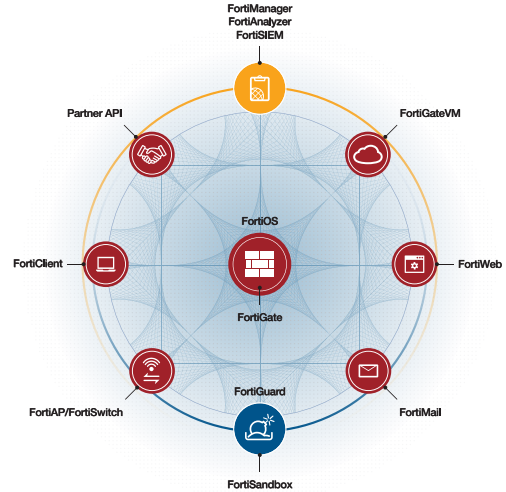
Control all the security and networking capabilities across the entire FortiGate platform with one intuitive operating system. Reduce operating expenses and save time with a truly consolidated next-generation security platform.



SERVICES

FortiGuard™ Security Services

FortiGuard Labs offers 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.



- A truly consolidated platform with one OS for all security and networking services for all FortiGate platforms.
- Industry-leading protection: NSS Labs Recommended, VB100, AV Comparatives, and ICSA validated security and performance.
- Control thousands of applications, block the latest exploits, and filter web traffic based on millions of real-time URL ratings.
- Prevent, detect, and mitigate advanced attacks automatically in minutes with integrated advanced threat protection.
- Fulfill your networking needs with extensive routing, switching, and SD-WAN capabilities.
- Utilize SPU hardware acceleration to boost security capability performance.

For more information, please refer to the FortiOS data sheet available at www.fortinet.com

FortiCare™ Support Services

Our FortiCare customer support team provides global technical support for all Fortinet products. With support staff in the Americas, Europe, Middle East, and Asia, FortiCare offers services to meet the needs of enterprises of all sizes.

For more information, please refer to forti.net/fortiguard and forti.net/forticare

SPECIFICATIONS

	FG-6300F/6301F	FG-6500F/6501F
Interfaces and Modules		
40/100 GE QSFP28 Slots		4
1/10/25 GE SFP28 Slots		24
10 GE SFP+ Slots		3
GE RJ45 Management Ports		2
USB Ports		1
Console Port		1
Internal Storage	2x 1 TB NVMe (for 6301F and 6501F only)	
Included Transceivers	2x SFP+ (SR 10 GE)	
System Performance — Enterprise Traffic Mix		
IPS Throughput ²	110 Gbps	170 Gbps
NGFW Throughput ^{2,4}	90 Gbps	150 Gbps
Threat Protection Throughput ^{2,5}	60 Gbps	100 Gbps
System Performance and Capacity		
Firewall Throughput (1518 / 512 / 64 byte, UDP)	239 / 238 / 135 Gbps	239 / 238 / 135 Gbps
Firewall Latency (64 byte, UDP)	5 µs	5 µs
Firewall Throughput (Packet per Second)	202.5 Mpps	202.5 Mpps
Concurrent Sessions (TCP)	120 Million	200 Million
New Sessions/Sec (TCP)	2 Million	3 Million
Firewall Policies	200,000	200,000
IPsec VPN Throughput (512 byte) ¹	96 Gbps	160 Gbps
Gateway-to-Gateway IPsec VPN Tunnels	16,000	16,000
Client-to-Gateway IPsec VPN Tunnels	90,000	90,000
SSL-VPN Throughput	9 Gbps	9 Gbps
Concurrent SSL-VPN Users (Recommended Maximum, Tunnel Mode)	30,000	30,000
SSL Inspection Throughput (IPS, avg. HTTPS) ³	66 Gbps	110 Gbps
SSL Inspection CPS (IPS, avg. HTTPS) ³	30,000	50,000
SSL Inspection Concurrent Session (IPS, avg. HTTPS) ³	10 Million	18 Million
Application Control Throughput (HTTP 64K) ²	150 Gbps	220 Gbps
CAPWAP Throughput (1444 byte, UDP)	N/A	N/A
Virtual Domains (Default / Maximum)		10 / 500
Maximum Number of Switches Supported		N/A
Maximum Number of FortiAPs (Total / Tunnel Mode)		N/A
Maximum Number of FortiTokens		20,000
Maximum Number of Registered FortiClients		100,000
High Availability Configurations		Supported

	FG-6300F/6301F	FG-6500F/6501F
Dimensions and Power		
Height x Width x Length (inches)	5.20 x 17.20 x 26.18	5.3 x 17.2 x 27.3
Height x Width x Length (mm)	132 x 437 x 665	133 x 437 x 694
Weight	67.68 lbs (30.7 kg) / 69.00 lbs (31.3 kg)	78.26 lbs (35.5 kg) / 79.59 lbs (36.1 kg)
Form Factor	3 RU	
AC Power Supply	100–240V AC, 50–60 Hz	
Power Consumption (Average / Maximum)	(977 / 1,217 W) / (977 / 1,237 W)	(1,308 / 1,548 W) / (1,328 / 1,568 W)
Current (Maximum)	30A@100VAC, 20A@240VAC	
Heat Dissipation	4,153 / 4,221 BTU/h	5,282 / 5,350 BTU/h
Redundant Power Supplies	2+1 Redundant, Hot Swappable	
Operating Environment and Certifications		
Operating Temperature	32–104°F (0–40°C)	
Storage Temperature	-31–158°F (-35–70°C)	
Humidity	10–90% non-condensing	
Noise Level	57.43 dBA	
Operating Altitude	Up to 7,400 ft (2,250 m)	
Compliance	FCC Part 15 Class A, C-Tick, VCCI, CE, UL/cUL, CB	

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.

ORDER INFORMATION

Product	SKU	Description
FortiGate 6300F	FG-6300F	4x 40/100 GE QSFP28 slots, 24x 1/10/25 GE SFP28 slots, 2x 1 GE RJ45 management ports, 2x 10 GE SFP+ HA ports, 1x 1/10 GE SFP+ management port, and 3x AC power supplies.
FortiGate 6301F	FG-6301F	4x 40/100 GE QSFP28 slots, 24x 1/10/25 GE SFP28 slots, 2x 1 GE RJ45 management ports, 2x 10 GE SFP+ HA ports, 1x 1/10 GE SFP+ management port, 2x 1 TB NVMe, and 3x AC power supplies.
FortiGate 6500F	FG-6500F	4x 40/100 GE QSFP28 slots, 24x 1/10/25 GE SFP28 slots, 2x 1 GE RJ45 management ports, 2x 10 GE SFP+ HA ports, 1x 1/10 GE SFP+ management port, and 3x AC power supplies.
FortiGate 6501F	FG-6501F	4x 40/100 GE QSFP28 slots, 24x 1/10/25 GE SFP28 slots, 2x 1 GE RJ45 management ports, 2x 10 GE SFP+ HA ports, 1x 1/10 GE SFP+ management port, 2x 1 TB NVMe, and 3x AC power supplies.
Optional Accessories		
100 GE QSFP28 Transceiver Module, 4 Channel Parallel Fiber, Short Range	FG-TRAN-QSFP28-SR4	100 GE QSFP28 transceivers, 4 channel parallel fiber, short range for all systems with QSFP28 slots.
100 GE QSFP28 Transceiver Module, 4 Channel Parallel Fiber, Long Range	FG-TRAN-QSFP28-LR4	100 GE QSFP28 transceivers, 4 channel parallel fiber, long range for all systems with QSFP28 slots.
40 GE QSFP+ Transceiver Module, Short Range	FG-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	FG-TRAN-QSFP+LR	40 GE QSFP+ transceiver module, long range for all systems with QSFP+ slots.
10 GE/25 GE SFP28 Transceiver Module, Short Range	FG-TRAN-SFP28-SR	10 GE/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.
10 GE SFP+ Transceiver Module, Short Range	FG-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	FG-TRAN-SFP+LR	10 GE SFP+ transceiver module, long range for all systems with SFP+ and SFP/SFP+ slots.
1 GE SFP LX Transceiver Module	FG-TRAN-LX	1 GE SFP LX transceiver module for all systems with SFP and SFP/SFP+ slots.
1 GE SFP RJ45 Transceiver Module	FG-TRAN-GC	1 GE SFP RJ45 transceiver module for all systems with SFP and SFP/SFP+ slots.
1 GE SFP SX Transceiver Module	FG-TRAN-SX	1 GE SFP SX transceiver module for all systems with SFP and SFP/SFP+ slots.
10GBase-ER SFP+ Transceiver Module	FS-TRAN-SFP+ER	10GBase-ER SFP+ transceiver module for FortiSwitch and FortiGate, 1550nm. Single Mode. 40km range for systems with SFP+ slots.
AC Power Supply	FG-7040E-PS-AC	1500 W AC power supply module for FG-7040E, FG-3960E and FG-3980E.



GLOBAL HEADQUARTERS
Fortinet Inc.
899 KIFER ROAD
Sunnyvale, CA 94086
United States
Tel: +1.408.235.7700
www.fortinet.com/sales

EMEA SALES OFFICE
905 rue Albert Einstein
06560 Valbonne
France
Tel: +33.4.8987.0500

APAC SALES OFFICE
8 Temasek Boulevard
#12-01 Suntec Tower Three
Singapore 038988
Tel: +65.6395.2788

LATIN AMERICA SALES OFFICE
Sawgrass Lakes Center
13450 W. Sunrise Blvd., Suite 430
Sunrise, FL 33323
United States
Tel: +1.954.368.9990