FORTINET

FortiGate® 3900E Series

FortiGate 3980E/-DC and 3960E/-DC Series
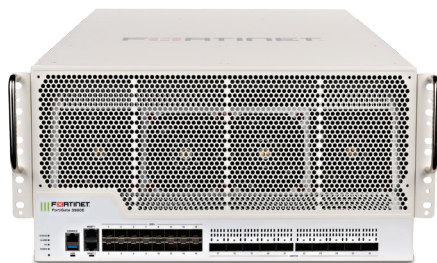
The FortiGate 3900E series delivers high performance threat protection for mid-sized to large enterprises and service providers, with the flexibility to be deployed at the Internet or cloud edge, in the data center core or internal segments. The multiple high-speed interfaces, high port density, industry-leading security efficacy and high throughput of the 3900E 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
- Delivers industry's best threat protection performance and ultra-low latency using purpose built security processor (SPU) technology
- Unprecedented 1 Terabit/second network firewall throughput in an appliance form factor for FortiGate 3980E
- 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, ICSA, Virus Bulletin and AV Comparatives

Networking
- Delivers extensive routing, high-speed interfaces, and high performance VPN capabilities to address performance and connectivity needs of large-scale data center and cloud applications
- Enables flexible deployment modes that fit into organizations' evolving network infrastructure

Management
- Single Pane of Glass with Network Operations Center (NOC) view provides 360° visibility to identify issues quickly and intuitively
- 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 collaboratively integrate and provide end-to-end security across the entire attack surface

Model	FG-3980E/-DC	FG-3960E/-DC
Firewall	1.05 Tbps	620 Gbps
IPS	32 Gbps	30 Gbps
NGFW	28 Gbps	22 Gbps
Threat Protection	18.5 Gbps	13.5 Gbps
Network Interfaces	Multiple 40/100 GE QSFP+/QSFP28, 10 GE SFP+ and GE RJ45	Multiple 40/100 GE QSFP+/QSFP28, 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
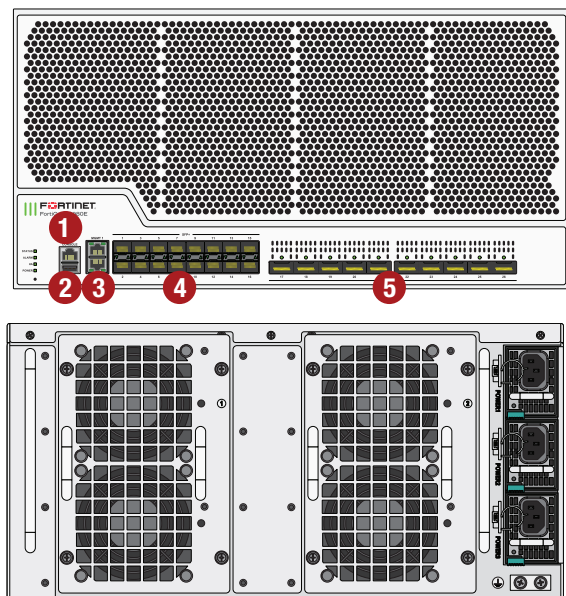- High-speed interfaces for future-proof connectivity
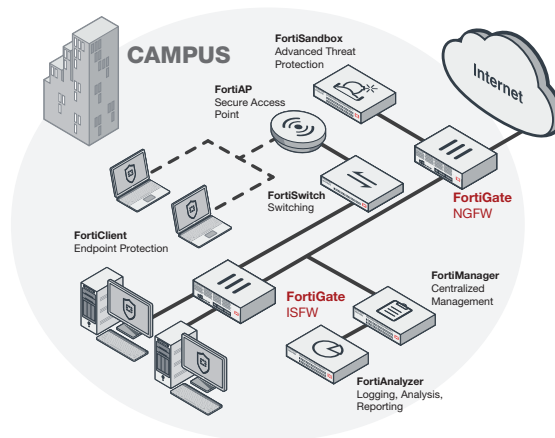
FortiGate 3960E/3980E deployment in large campus networks (NGFW, ISFW)

FortiGate 3960E/3980E deployment in data center (DCFW-IPS/NGFW, ISFW)
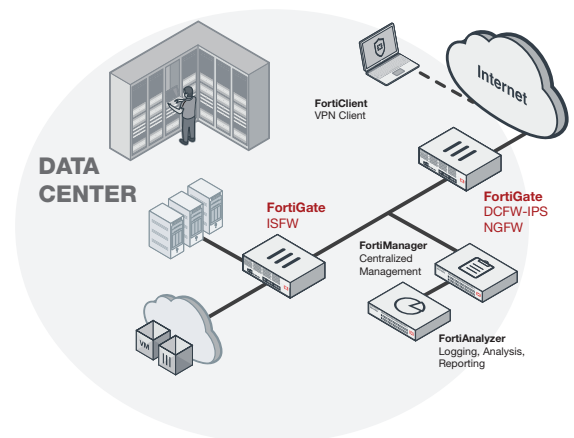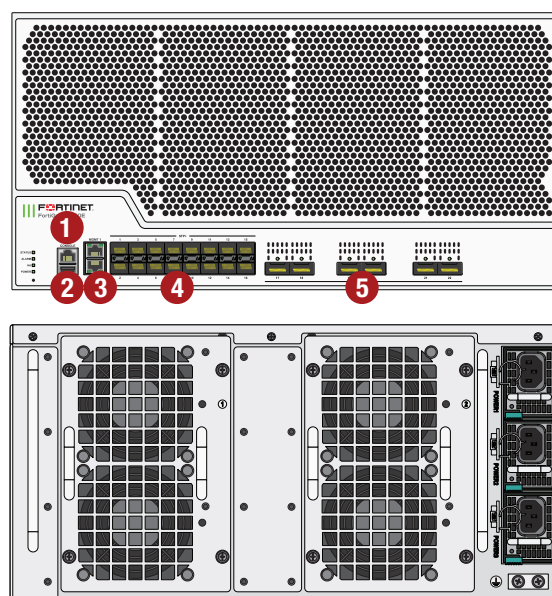
HARDWARE

FortiGate 3980E/-DC

Interfaces

NP6	CP9	5U	100GE	AC DUAL	DC DUAL	Forti Carrier	

1. Console Port
2. USB Port
3. 2x GE RJ45 Management Ports
4. 16x 1/10 G SFP/SFP+ Slots
5. 10x 100 GE QSFP28 Slots

FortiGate 3960E/-DC

Interfaces

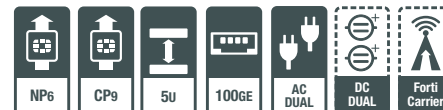|							
NP6	CP9	5U	100GE	AC DUAL	DC DUAL	Forti Carrier	

1. Console Port
2. USB Port
3. 2x GE RJ45 Management Ports
4. 16x 1/10 G SFP/SFP+ Slots
5. 6x 40/100 GE QSFP+/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, CAPWAP 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

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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.
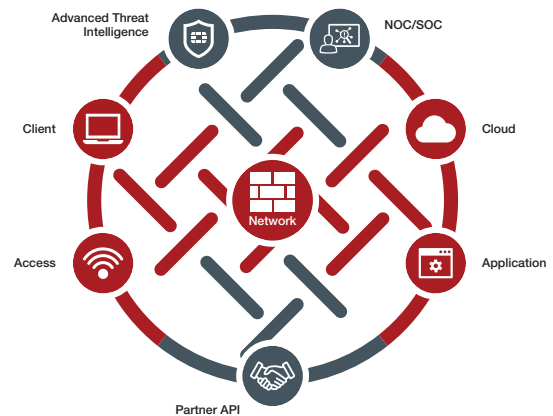
FortiOS

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.
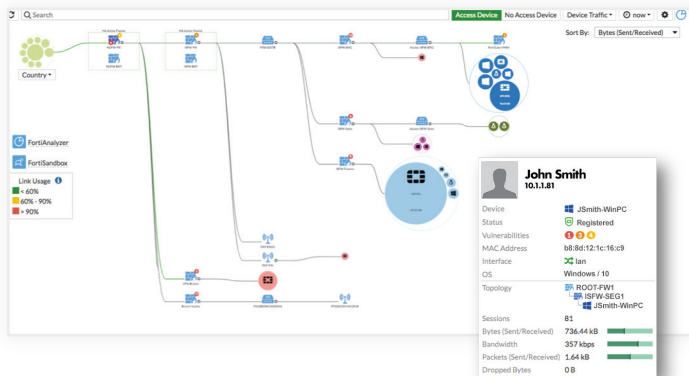
- A truly consolidated platform with one OS for all security and networking services for all FortiGate platforms.
- Industry-leading protection: NSS Labs Recommended, VB100, AV Comparatives, and ICSA validated security and performance.
- Control thousands of applications, block the latest exploits, and 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.
- Ultilize SPU hardware acceleration to boost security capability performance.

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

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.

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-3980E /-DC	FG-3960E /-DC
Interfaces and Modules		
40/100 GE QSFP+/QSFP28 Slots	10	6
10 GE SFP+ Slots	16	
GE RJ45 Management Ports	2	
USB Ports	1	
Console Port	1	
Internal Storage	–	
Included Transceivers	2x SFP+ (SR 10 GE)	
System Performance and Capacity		
Firewall Throughput (1518 / 512 / 64 byte, UDP)	1.05 Tbps / 1.05 Tbps / 680 Gbps	620 / 610 / 370 Gbps
Firewall Latency (64 byte, UDP)	3 µs	
Firewall Throughput (Packet per Second)	1,020 Mpps	555 Mpps
Concurrent Sessions (TCP)	160 Million	
New Sessions/Sec (TCP)	550,000	
Firewall Policies	200,000	
IPsec VPN Throughput (512 byte) [1]	400 Gbps	280 Gbps
Gateway-to-Gateway IPsec VPN Tunnels	40,000	
Client-to-Gateway IPsec VPN Tunnels	200,000	
SSL-VPN Throughput	9.5 Gbps	9 Gbps
Concurrent SSL-VPN Users (Recommended Maximum, Tunnel Mode)	30,000	30,000
SSL Inspection Throughput (IPS, HTTP) [3]	32 Gbps	30 Gbps
Application Control Throughput (HTTP 64K) [2]	55 Gbps	40 Gbps
CAPWAP Throughput (1444 byte, UDP)	14 Gbps	13.5 Gbps
Virtual Domains (Default / Maximum)	10 / 500	
Maximum Number of Switches Supported	256	
Maximum Number of FortiAPs (Total / Tunnel Mode)	4,096 / 1,024	
Maximum Number of FortiTokens	5,000	
Maximum Number of Registered FortiClients	100,000	
High Availability Configurations	Active / Active, Active / Passive, Clustering	
System Performance — Optimal Traffic Mix		
IPS Throughput [2]	82 Gbps	80 Gbps
System Performance — Enterprise Traffic Mix		
IPS Throughput [2]	32 Gbps	30 Gbps
NGFW Throughput [2, 4]	28 Gbps	22 Gbps
Threat Protection Throughput [2, 5]	18.5 Gbps	13.5 Gbps

	FG-3980E /-DC	FG-3960E /-DC
Dimensions and Power		
Height x Width x Length (inches)	8.8 x 17.2 x 27.3	
Height x Width x Length (mm)	222 x 437 x 695	
Weight	106.3 lbs (48.2 kg)	100.8 lbs (45.8 kg)
Form Factor	5 RU	
AC Power Supply	100–240V AC, 50–60 Hz	
DC Power Supply (FG-3980E-DC, FG-3960E-DC)	-48–60V	
Power Consumption (Average / Maximum)	1172 / 2350 W	960 / 2110 W
Current (Maximum)	23.5A@100V, 9.8A@240V	21.1A@100V, 8.8A@240V
Heat Dissipation	8,019 BTU/h	7,200 BTU/h
Redundant Power Supplies	Yes, 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	63 dBA	
Operating Altitude	Up to 7,400 ft (2,250 m)	
Compliance	FCC Part 15 Class A, C-Tick, VCCI, CE, UL/cUL, CB	
Certifications	ICSA Labs: Firewall, IPsec, IPS, Antivirus, SSL-VPN; USGv6/IPv6	
NEBS Certified	–	

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 test uses TLS v1.2 with AES128-SHA256.
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 3980E	FG-3980E	10x 100 GE QSFP28 slots and 16x 10 GE SFP+ slots, 2x GE RJ45 management ports, SPU NP6 and CP9 hardware accelerated, and 3 AC power supplies.
FortiGate 3980E-DC	FG-3980E-DC	10x 100 GE QSFP28 slots and 16x 10 GE SFP+ slots, 2x GE RJ45 management ports, SPU NP6 and CP9 hardware accelerated, and 3 DC power supplies.
FortiGate 3960E	FG-3960E	6x 100 GE QSFP28 slots and 16x 10 GE SFP+ slots, 2x GE RJ45 management ports, SPU NP6 and CP9 hardware accelerated, and 3 AC power supplies.
FortiGate 3960E-DC	FG-3960E-DC	6x 100 GE QSFP28 slots and 16x 10 GE SFP+ slots, 2x GE RJ45 management ports, SPU NP6 and CP9 hardware accelerated, and 3 DC power supplies.
Optional Accessories		
100 GE QSFP28 Transceivers, 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 Transceivers, 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.
40GE QSFP+ transceivers, short range	FG-TRAN-QSFP+SR	40GE QSFP+ transceivers, short range for all systems with QSFP+ Slots
40GE QSFP+ transceivers, long range	FG-TRAN-QSFP+LR	40GE QSFP+ transceivers, long range for all systems with QSFP+ 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.
100 GE SR10 to 10x 10 GE Fan Out Cable	FG-CABLE-SR10-SFP+	100 GE SR10 to 10x 10 GE SFP+ 1M fan out cable.
AC Power Supply	FG-7040E-PS-AC	1500 W AC power supply module for FG-7040E, FG-3960E and FG-3980E.

Enterprise Bundle

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 the FortiGuard Enterprise Bundle. This bundle contains the full set of FortiGuard security services plus FortiCare service and support offering the most flexibility and broadest range of protection all in one package.

FÜRTINET®

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