



DATASHEET

FortiGate®-3950B

10-GbE Consolidated Security Appliance



The FortiGate-3950B consolidated security appliance offers unmatched levels of performance, scalability, and security for large enterprise networks and managed service providers. Purpose-built by Fortinet, the FortiGate-3950B features custom FortiASIC™ processors, layered multi-threat protections from the FortiOS™ operating system, and a flexible, modular architecture for future growth.

High-Performance Hardware

The FortiGate-3950B provides up to 120 Gbps of firewall throughput, delivering the highest overall consolidated security performance in the FortiGate appliance line. Wire-speed firewall performance at 10-GbE and GbE link speeds ensure that security won't impact your network.

Modular Scalability

The FortiGate-3950B features a modular, space-saving 3-RU form factor, with five Fortinet Mezzanine Card (FMC) expansion bays. The FMC expansion bays allow you to customize your appliance for your unique network environment. You can add FMC modules to accelerate 10-GbE firewall and IPS throughput, or to rapidly scale GbE copper or fiber port capacity for large installations.

Consolidated Security

Using the advanced FortiOS operating system, FortiGate-3950B consolidated security appliances effectively neutralizes a wide range of threats facing networks today. Whether deployed as high-performance firewalls, or as comprehensive consolidated security solutions, FortiGate appliances protect critical assets with some of the most effective security available today.

FortiOS The World's Most Advanced Security Operating System

FortiOS provides high performance, ultra low latency multi-threat security by leveraging the hardware acceleration provided by purpose-built FortiASIC processors. This combination of custom hardware and software gives you the best security and performance possible from a single device. FortiOS allows greater traffic visibility and more consistent, granular control over users, applications and sensitive data.

The FortiASIC Advantage

FortiASIC processors power FortiGate platforms. With exclusive hardware, the purpose built, high-performance network, security, and content processors use intelligent and proprietary digital engines to accelerate resource-intensive security services.

Features

Benefits



FortiGate-3950B

Hardware Accelerated Performance

FortiASIC processors ensure that FortiGate consolidated security appliances will keep pace with traffic flows in your network.

Additional Capacity on Demand

Fortinet expansion slots provide greater flexibility by supporting additional hardware-accelerated ports.

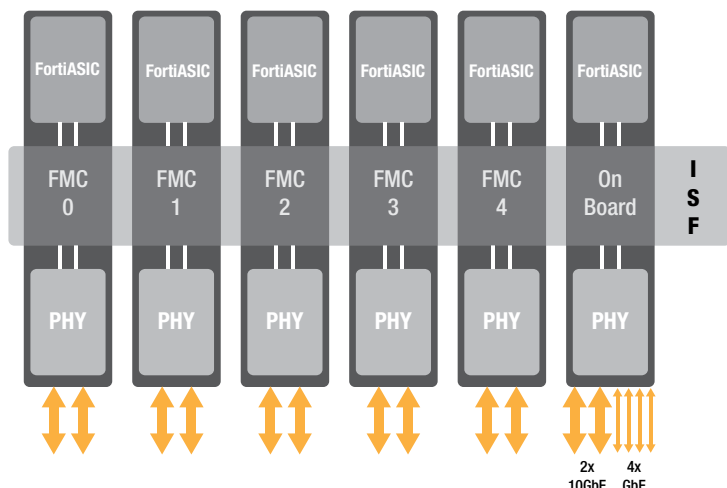
Unified Security Architecture

FortiGate consolidated security appliances offer better protection and lower cost when compared with multi-point security products.

Centralized Management

FortiManager and FortiAnalyzer centralized management and reporting appliances simplify deployment, monitoring and maintenance of your security infrastructure.

FortiGate-3950B Architecture



Fortinet High-Level Integrated Switch Fabric Architecture

Integrated Switch Fabric

The FortiGate-3950B high-performance consolidated security appliance brings together an Integrated Switch Fabric (ISF) and modular expansion capabilities. This combination provides a uniquely scalable forwarding and security processing architecture, all leveraging Fortinet-designed ASIC technologies. At the heart of the FortiGate-3950B is a 240 Gbps ISF, enabling full mesh connectivity between all Fortinet Mezzanine Card (FMC) slots. Each FMC slot provides 40 Gbps of connectivity bandwidth to the ISF. Bandwidth is divided between the physical port and the FortiASIC layer such that any port will be able to utilize any FortiASIC processing resource found in any FMC slot, without suffering a performance penalty.

Fortinet Mezzanine Card Expansion Slots

The FMC form factor is the basis for the Fortinet Mezzanine Card modules. Each Fortinet FMC module integrates FortiASIC processors with additional network interfaces to deliver improved performance and port density. Performance and scalability can be expanded at any time by adding FMC modules.



FortiGate-3950B (Front)



FortiGate-3950B (Rear)



FMC-C20 Module



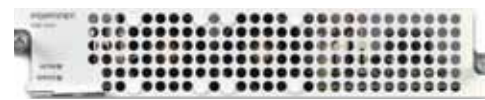
FMC-F20 Module



FMC-XD2 Accelerated Interface Module
(Firewall Acceleration)



FMC-XG2 Security Processing Module
(IPS Acceleration)



FMC-XH0 Security Processing Module
(IPS Acceleration)

FortiASIC Processors

FortiASIC processors form the foundation for Fortinet's unique hardware platforms. FortiASICs are a family of purpose-built, high-performance Network, Content and Security processors that leverage intelligent and proprietary content scanning engines to accelerate resource-intensive security services. When coupled with the FortiOS security-hardened operating system, FortiASIC technology delivers superior performance and security for your network.

Technical Specifications - Appliances	FortiGate-3950B
Total Network Interfaces (Base / Max)	8 / 108 ¹
Hardware Accelerated 10-GbE SFP+ Interfaces	2 / 12 ¹
Hardware Accelerated GbE SFP Interfaces	4 / 104 ¹
Accelerated 10/100/1000 Interfaces	100 ¹
Management 10/100/1000 Interfaces	2
Transceivers Included	2x SR SFP+
Fortinet Mezzanine Card (FMC) Expansion Slots	5
Internal Storage	256 GB
System Performance	
Firewall Throughput (1518 / 512 / 64 byte UDP packets)	20 / 20 / 20 - 120 / 120 / 120 Gbps ²
Firewall Latency (64 byte UDP packets)	4 µs
Firewall Throughput (Packets Per Second)	30 - 180 Mpps ²
Concurrent Sessions (TCP)	20 Million
New Sessions/Sec (TCP)	250,000 - 300,000 ³
Firewall Policies	100,000
IPSec VPN Throughput (512 byte packets)	8 - 50.5 Gbps ²
Gateway-to-Gateway IPSec VPN Tunnels	10,000
Client-to-Gateway IPSec VPN Tunnels	64,000
SSL-VPN Throughput	1.2 Gbps
Concurrent SSL-VPN Users (Recommended Max)	25,000
IPS Throughput	5 - 20 Gbps ⁴
Antivirus Throughput (Proxy Based / Flow Based)	4 / 5 - 15 Gbps ⁴
Virtual Domains (Default / Max)	10 / 500
Max Number of FortiAPs (Total / Tunnel Mode)	4,096 / 1,024
Max Number of FortiTokens	5,000
Max Number of Registered FortiClients	8,000
High Availability Configurations	Active/Active, Active/Passive, Clustering
Unlimited User Licenses	Yes
Dimensions and Power	
Height x Width x Length	5.25 x 17.5 x 27.65 in (133 x 444 x 702 mm)
Weight	60.0 lb (27 Kg)
Rack Mountable	Yes
AC Power	100-240 VAC, 50-60 Hz, 7.0 - 12.0 Amp (Max)
Power Consumption (Avg/Max)	382 W / 470 W
Heat Dissipation	1,603 BTU/h
Redundant Power Supplies (hot-swappable)	Yes
Operating Environment and Certifications	
Operating Temperature	32 – 104 deg F (0 – 40 deg C)
Storage Temperature	-31 – 158 deg F (-35 – 70 deg C)
Humidity	20 to 90% non-condensing
Compliance	FCC Part 15 Class A, C-Tick, VCCI, CE, UL/cUL, CB
Certifications	ICSA Labs: Firewall, IPSec, IPS, Antivirus, SSL VPN

The FortiGate-3950B consolidated security appliance includes:

- Multiple Deployment Modes (Transparent/Routing)
- Integrated Switch Fabric (ISF)
- Advanced Layer-2/3 Routing Capabilities
- High-Availability (Active/Active, Active/Passive, Clustering)
- Virtual Domains (VDMs)
- Data Center Traffic Optimization
- Traffic Shaping and Prioritization
- WAN Optimization
- Multiple Device Authentication Options

MANAGEMENT OPTIONS

- Local Web-Based Management Interface
- Command Line Interface (CLI) Management
- Local Event Logging
- Centralized Management (FortiManager required)
- Centralized Event Logging (FortiAnalyzer required)

Technical Specifications - FMC Modules	FMC-XD2	FMC-XG2	FMC-XH0	FMC-C20	FMC-F20
Total Network Interfaces	2	2	0	20	20
Hardware Accelerated 10-GbE SFP+ Interfaces	2	2	-	-	-
Hardware Accelerated 1-GbE SFP Interfaces	-	-	-	-	20
Hardware Accelerated 10/100/1000 Interfaces	-	-	-	20	-
Transceivers Included	2x SR SFP+	2x SR SFP+	-	-	4x SX SFP
Firewall Throughput (1518 byte UDP packets)	20 Gbps	18 Gbps	19 Gbps	20 Gbps	20 Gbps
Firewall Throughput (512 byte UDP packets)	20 Gbps	17 Gbps	19 Gbps	20 Gbps	20 Gbps
Firewall Throughput (64 byte UDP packets)	20 Gbps	4.5 Gbps	10.5 Gbps	20 Gbps	20 Gbps
IPSec VPN Throughput (512 byte packets)	8 Gbps	6 Gbps	16.5 Gbps	8.5 Gbps	8.5 Gbps
IPS Throughput	-	2.5 Gbps	4 Gbps	-	-
Antivirus Throughput (Flow-based)	-	2 Gbps	4 Gbps	-	-
Environment					
Power Consumption (Avg)	45 W	68 W	48 W	74.3 W	59.6 W
Power Consumption (Max)	54 W	81.6 W	73 W	89 W	71.5 W
Heat Dissipation	154 BTU/h	278 BTU/h	249 BTU/h	304 BTU/h	244 BTU/h

Note: All performance values are "up to" and vary depending on system configuration. Antivirus performance is measured using 44 Kbyte HTTP files. IPS performance is measured using 1 Mbyte HTTP files.

¹ Higher figure uses FMC modules to achieve the stated performance.

² Maximum Firewall and VPN system performance is based on fully populated system with FMC-XD2 modules.

³ Higher New Sessions/Sec (TCP) performance is based on system populated with one FMC-XH0 module.

⁴ Maximum IPS and flow-based antivirus performance is based on fully populated system with FMC-XH0 modules.

Ordering Info	SKU
Product Description	
FortiGate-3950B, 2 SFP+ 10-Gig ports (2 SFP+ SR-type transceivers included), 4 SFP FortiASIC accelerated ports, 2 10/100/1000 ports, 5 FMC slots, and dual AC power supplies	FG-3950B
FortiGate-3950B-DC, 2 SFP+ 10-Gig ports (2 SFP+ SR-type transceivers included), , 4 SFP FortiASIC accelerated ports, 2 10/100/1000 ports, 5 FMC slots, -48VDC powered	FG-3950B-DC
FMC-XD2 Firewall module, 2 10-Gig SFP+ ports, includes 2 SR SFP+ transceivers	FMC-XD2
FMC-XG2 IPS module, 2 10-Gig SFP+ ports, includes 2 SR SFP+ transceivers	FMC-XG2
FMC-XH0 Security Processing Module (SP3), no external interfaces	FMC-XH0
FMC-C20 FW module, 20 10/100/1000 ports	FMC-C20
FMC-F20 FW module, 20 SFP 1-Gig ports, includes 4 SX SFP transceivers	FMC-F20
Optional Accessories	SKU
10-GbE transceiver, Short Range SFP+ module for all FortiGate models with SFP+ interfaces	FG-TRAN-SFP+SR
10-GbE transceiver, Long Range SFP+ module for all FortiGate models with SFP+ interfaces	FG-TRAN-SFP+LR



FortiGuard® Security Subscription Services deliver dynamic, automated updates for Fortinet products. The Fortinet Global Security Research Team creates these updates to ensure up-to-date protection against sophisticated threats. Subscriptions include antivirus, intrusion prevention, web filtering, antispam, vulnerability and compliance management, application control, and database security services.

FortiCare™ Support Services provide global support for all Fortinet products and services. FortiCare support enables your Fortinet products to perform optimally. Support plans start with 8x5 Enhanced Support with return and replace hardware support or 24x7 Comprehensive Support with advanced hardware replacement. Options include Premium Support, Premium RMA, and Professional Services. All hardware products include a 1-year limited hardware warranty and a 90-day limited software warranty.

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