

# FortiGate®-3950 Series

## 10-GbE Multi-Threat Security Appliances



The FortiGate-3950 series of multi-threat security appliances offers unmatched levels of performance, scalability, and security for large enterprise networks. Built from the ground up by Fortinet, the FortiGate-3950 series combines three essential elements to achieve these benefits: custom hardware including FortiASIC™ processors, a modular architecture for future growth, and multi-threat security from the FortiOS™ operating system.

### High-Performance Hardware

The FortiGate-3950 series provides up to 120 Gbps of firewall performance through the use of modular expansion capabilities and innovative FortiASIC processors. In addition, the FortiGate-3950 series boasts the highest overall multi-threat security performance in the FortiGate appliance line. The series also features wire-speed firewall performance at 10-GbE and GbE link speeds, ensuring that your security can keep up with the rest of your network.

### Modular Scalability

Both the FortiGate-3950B and the FortiGate-3951B models use a space-saving and modular 3-RU appliance form factor with up to five Fortinet Mezzanine Card (FMC) expansion bays. The FMC expansion bays give you the ability to customize the appliance to meet the requirements of almost any high-performance network environment. The FortiGate-3951B appliance also includes four Fortinet Storage Modules (FSM) bays with one 64GB solid-state disk module pre-populated, enabling features of FortiOS software such as local event storage and WAN Optimization.

### Multi-Threat Security

Using the advanced FortiOS operating system, the FortiGate-3950 series appliances effectively neutralize a wide range of security threats facing networks today. Whether the appliances are used as a high-performance firewall or as a comprehensive multi-threat security solution, FortiGate appliances protect assets with some of the most effective security available.

### FortiOS 4.0 Software Redefines Networks Security

FortiOS 4.0 is a purpose-built operating system that leverages the power of specialized FortiASIC hardware to offer increased levels of security and performance. Fortinet developed FortiOS 4.0 software solely for the FortiGate multi-threat security platform. FortiOS software enables a comprehensive suite of security services – firewall, VPN, intrusion prevention, antimalware, antispam, web filtering, application control, data loss prevention, vulnerability management, and end point network access control.

### 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 Multi-Threat Security Appliance



FortiGate-3951B Multi-Threat Security Appliance

#### Hardware Accelerated Performance

FortiASIC processors provide assurance that the security device will not become a bottleneck in the network

#### Additional Capacity on Demand

Fortinet expansion slots provide greater flexibility by supporting additional hardware-accelerated ports and localized storage of event data

#### Unified Security Architecture

FortiGate multi-threat security provides better protection and lowered costs over multiple point security products

#### Centralized Management

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

	FortiGate-3950B	FortiGate-3951B
<b>Technical Specifications - Appliances</b>		
Total Network Interfaces	8 / 18 <sup>1</sup>	8 / 16 <sup>1</sup>
Hardware Accelerated 10-GbE SFP+ Interfaces	2 / 12 <sup>1</sup>	2 / 10 <sup>1</sup>
Hardware Accelerated 1-GbE SFP Interfaces	4	4
Non-Accelerated 10/100/1000 Interfaces	2	2
Transceivers Included	Two SR SFP+	Two SR SFP+
Fortinet Mezzanine Card (FMC) Expansion Slot	5	4
Fortinet Storage Module (FSM) Expansion Slot	0	4 (Total) / 3 (Available)
Included Local Disk-Based Storage	No	1 x 64GB SSD (FSM-064) (Expandable to 4 x FSM-064)
<b>System Performance</b>		
Firewall Throughput (512 / 1518 byte UDP packets)	20 Gbps / 120 Gbps <sup>1,2</sup>	20 Gbps / 100 Gbps <sup>1,2</sup>
Firewall Throughput (64 byte UDP packets)	20 Gbps / 120 Gbps <sup>1,2</sup>	20 Gbps / 100 Gbps <sup>1,2</sup>
Firewall Throughput (Packets Per Second)	180 Mpps	150 Mpps
IPSec VPN Throughput (AES-256 + SHA-1)	8 Gbps / 48 Gbps <sup>1,2</sup>	8 Gbps / 40 Gbps <sup>1,2</sup>
IPS Throughput	More than 10 Gbps <sup>1,3</sup>	More than 10 Gbps <sup>1,3</sup>
Antivirus Throughput	1.5 Gbps	1.5 Gbps
Gateway-to-Gateway IPSec VPN Tunnels (System / VDOM)	10,000 / 5,000	10,000 / 5,000
Client-to-Gateway IPSec VPN Tunnels	64,000	64,000
Concurrent Sessions	10 Million	10 Million
New Sessions/Sec	175,000	175,000
Concurrent SSL-VPN Users (Recommended Max)	10,000	10,000
Firewall Policies (System / VDOM)	100,000 / 50,000	100,000 / 50,000
Virtual Domains (Max / Default)	250 / 10	250 / 10
Unlimited User Licenses	Yes	Yes
Redundant Power Supplies (Hot Swappable)	Yes	Yes
<b>Dimensions</b>		
Height	5.25" (13.3 cm) - 3 RU	5.25" (13.3 cm) - 3 RU
Width	17.5" (44.4 cm)	17.5" (44.4 cm)
Length	27.65" (70.2 cm)	27.65" (70.2 cm)
Weight	60 lb (27 Kg)	61.8 lb (28 Kg)
Rack Mountable	Yes	Yes
<b>Environment</b>		
AC Power	100 - 240 VAC, 50-60 Hz 7.0-12.0 Amp (Max)	100 - 240 VAC, 50-60 Hz 7.0-12.0 Amp (Max)
Power Consumption (AVG)	507 W	507 W
Heat Dissipation	1728 BTU	1728 BTU
Operating Temperature	32 - 104 deg F (0 - 40 deg C)	32 - 104 deg F (0 - 40 deg C)
Storage Temperature	-13 - 158 deg F (-35 - 70 deg C)	-13 - 158 deg F (-35 - 70 deg C)
Humidity	20 to 90% non-condensing	20 to 90% non-condensing
<b>Compliance</b>		
	FCC Class A Part 15, UL/CUL, C Tick, VCCI	



FortiGate-3950B Appliance (Front)



FortiGate-3951B Appliance (Front)



FortiGate-3950B/3951B Appliance (Rear)

## The FortiGate-3950 series of multi-threat security appliances also include

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

## MANAGEMENT OPTIONS

- Local Web-Based Management Interface
- Command Line Management Interface (CLI)
- Local Event Logging (Memory / Disk if available)
- Centralized Management (FortiManager Appliance Required)
- Centralized Event Logging (FortiAnalyzer Appliance Required)

	FMC-XD2	FMC-XG2
<b>Technical Specifications - FMC Modules</b>		
Total Network Interfaces	2	2
Hardware Accelerated 10-GbE SFP+ Interfaces	2	2
Transceivers Included	Two SR SFP+	Two SR SFP+
Firewall Throughput (512 / 1518 byte UDP packets)	20 Gbps	20 Gbps
Firewall Throughput (64 byte UDP packets)	20 Gbps	6 Gbps
IPSec VPN Throughput (AES-256 + SHA-1)	8 Gbps	TBD
IPS Throughput	--	3 Gbps <sup>2</sup>
<b>Environment</b>		
Power Consumption (AVG)	45 W	TBD
Heat Dissipation	153.5 BTU	TBD



FMC-XD2 Accelerated Interface Module  
(Firewall Acceleration)



FMC-XG2 Security Processing Module  
(IPS Acceleration)

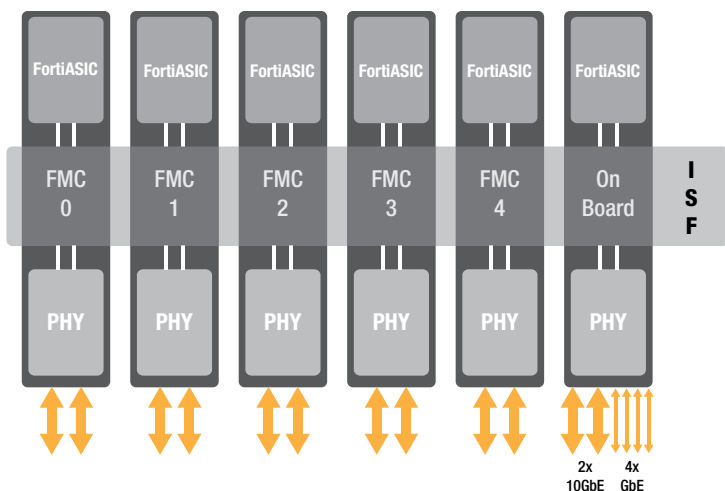
All performance values are "up to" and vary depending on system configuration. Antivirus performance is benchmarked using HTTP traffic (32 Kbyte objects).

<sup>1</sup> Higher figure uses FMC modules to achieve the stated performance.

<sup>2</sup> Maximum firewall and VPN system performance is based on fully populated system with FMC-XD2 modules.

<sup>3</sup> Maximum IPS performance is based on the targeted performance of the FMC-XG2 module and a system populated with four FMC-XG2 modules.

## FortiGate-3950 Series Architecture



High-Level Integrated Switch Fabric Architecture

### Integrated Switch Fabric Architecture

The FortiGate-3950 series of high performance multi-threat security appliances 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-3950 series is a 240 Gbps switch fabric. The ISF enables full mesh connectivity between all FMC slots, with each FMC slot having 40 Gbps of connectivity bandwidth to the ISF. This bandwidth is divided between the physical port and the FortiASIC layer, meaning 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

The Fortinet Mezzanine Card (FMC) form factor is the basis for the Fortinet specialized modules designed to integrate with the FortiGate-3950 series. Each FMC module integrates FortiASIC processors and network interfaces on a single module, providing a cost effective way to increase performance and port density. System performance is no longer limited to the base system, with additional performance available on demand.

### FortiASIC Processors

FortiASIC forms the foundation for Fortinet's unique hardware platforms. FortiASIC processors are a family of purpose built, high-performance network, security, and content processors that use intelligent and proprietary content scanning engines to accelerate resource-intensive security services. Coupled with the FortiOS security-hardened operating system, FortiASIC technology delivers extreme performance and security.

### FortiOS 4.0: Redefining Network Security

FortiOS 4.0 is the system software that powers FortiGate multi-threat security platforms. Developed solely for security, performance, and reliability, it is a purpose-built operating system that leverages the power of FortiASIC processors. FortiOS 4.0 software includes a wide range of services that increase your security while reducing your operating and capital costs. It combines enterprise-class firewall, IPsec VPN, SSL-VPN, intrusion prevention, antivirus, web filtering, antispam, and Layer 2/3 routing services. The latest release also adds Data Loss Prevention (DLP), WAN optimization, application control, SSL-encrypted traffic inspection, wireless controller, endpoint Network Access Control (NAC), enhanced VoIP Security, and Vulnerability Management capabilities.



# FortiOS Security Services

## FIREWALL

ICSA Labs Certified (Enterprise Firewall)  
NAT, PAT, Transparent (Bridge)  
Routing Mode (RIP, OSPF, BGP, Multicast)  
Policy-Based NAT  
Virtual Domains (NAT/Transparent mode)  
VLAN Tagging (802.1Q)  
User Group-Based Authentication & Scheduling  
SIP/H.323 /SCCP NAT Traversal  
WINS Support  
Granular Per-Policy Protection Profiles  
Explicit Proxy Support

## VIRTUAL PRIVATE NETWORK (VPN)

ICSA Labs Certified (IPSec)  
PPTP, IPSec, and SSL  
Dedicated Tunnels  
DES, 3DES, and AES Encryption Support  
SHA-1/MD5 Authentication  
PPTP, L2TP, VPN Client Pass Through  
Hub and Spoke VPN Support  
IKE Certificate Authentication (v1 & v2)  
IPSec NAT Traversal  
Automatic IPSec Configuration  
Dead Peer Detection  
RSA SecurID Support  
SSL Single Sign-On Bookmarks  
SSL Two-Factor Authentication  
LDAP Group Authentication (SSL)

## NETWORKING/ROUTING

Multiple WAN Link Support  
PPPoE Support  
DHCP Client/Server  
Policy-Based Routing  
Dynamic Routing for IPv4 and IPv6 (RIP, OSPF, BGP, & Multicast for IPv4)  
Multi-Zone Support  
Route Between Zones  
Route Between Virtual LANs (VDMs)  
Multi-Link Aggregation (802.3ad)  
IPv6 Support (Firewall, DNS, Transparent Mode, SIP, Dynamic Routing, Administrative Access, Management)

## ANTIVIRUS

ICSA Labs Certified (Gateway Antivirus)  
Includes Antispyware and Worm Prevention  
HTTP/HTTPS SMTP/SMTSP  
POP3/POP3S IMAP/IMAPS  
FTP IM Protocols  
Automatic "Push" Content Updates from FortiGuard Network  
File Quarantine Support  
Block by File Size or Type  
IPv6 Support

## WEB FILTERING

76 Unique Categories Provided by the FortiGuard Web Filtering Service Categorizes over 2 Billion Web pages  
HTTP/HTTPS Filtering  
URL/Keyword/Phrase Block  
URL Exempt List  
Content Profiles  
Blocks Java Applet, Cookies, Active X  
MIME Content Header Filtering  
IPv6 Support

## APPLICATION CONTROL

Identify and Control Over 1000 Applications  
Control Popular IM/P2P Apps Regardless of Port/Protocol:  
AOL-IM Yahoo MSN KaZaa  
ICQ Gnutella BitTorrent MySpace  
WinNY Skype eDonkey Facebook

## HIGH AVAILABILITY (HA)

Active-Active, Active-Passive  
Stateful Failover (FW and VPN)  
Device Failure Detection and Notification  
Link Status Monitor  
Link failover  
Server Load Balancing

## WAN OPTIMIZATION

Bi-Directional / Gateway to Client/Gateway  
Integrated Caching and Protocol Optimization  
Accelerates CIFS/FTP/MAPI/HTTP/HTTPS/Generic TCP  
Requires a FortiGate device with Hard Drive

## INTRUSION PREVENTION SYSTEM (IPS)

ICSA Labs Certified (NIPS)  
Protection From Over 3000 Threats  
Protocol Anomaly Support  
Custom Signature Support  
Automatic Attack Database Update  
IPv6 Support

## DATA LOSS PREVENTION (DLP)

Identification and Control Over Sensitive Data in Motion  
Built-in Pattern Database  
RegEx-based Matching Engine for Customized Patterns  
Configurable Actions (block/log)  
Supports IM, HTTP/HTTPS, and More  
Many Popular File Types Supported  
International Character Sets Supported

## ANTISPAM

Support for SMTP/SMTSP, POP3/POP3S, IMAP/IMAPS  
Real-Time Blacklist/Open Relay Database Server  
MIME Header Check  
Keyword/Phrase Filtering  
IP Address Blacklist/Exempt List  
Automatic Real-Time Updates From FortiGuard Network

## ENDPOINT COMPLIANCE AND CONTROL

Monitor & Control Hosts with FortiClient Endpoint Security

## TRAFFIC SHAPING

Policy-based Traffic Shaping  
Differentiated Services (DiffServ) Support  
Guarantee/Max/Priority Bandwidth  
Shaping via Accounting, Traffic Quotas, and Per-IP

## VIRTUAL DOMAINS (VDMs)

Separate Firewall/Routing Domains  
Separate Administrative Domains  
Separate VLAN Interfaces  
10 VDOM License Standard, Upgradable to More

## DATA CENTER OPTIMIZATION

Web Server Caching TCP Multiplexing  
HTTPS Offloading

Ordering Info	SKU
<b>Product Description</b>	
FortiGate-3950B, 2 SFP+ 10-Gig ports (2 SFP+ SR-type transceivers included), 4 SFP 10/100/1000 FortiASIC accelerated ports, 2 10/100/1000 ports, 5 FMC slots, and dual AC power supplies	FG-3950B
FortiGate-3951B, 2 SFP+ 10-Gig ports (2 SFP+ SR-type transceivers included), 4 SFP 10/100/1000 FortiASIC accelerated ports, 2 10/100/1000 ports, 4 FMC slots, 4 FSM Slots, 1 FSM-064 with 64GB SSD storage and dual AC power supplies	FG-3951B
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
<b>Optional Accessories</b>	<b>SKU</b>
Fortinet Storage Module (FSM), 64 GB Solid State Drive for FortiGate with FSM slot (For FG-3951B Only)	FSM-064
10-Gig transceiver, Short Range SFP+ module for all FortiGate models with SFP+ interfaces	FG-TRAN-SFP+SR
10-Gig 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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