FORTINET

FortiTester

PERFORMANCE TESTING AND BREACH ATTACK SIMULATION

Fortinet's FortiTester solution offers enterprise and managed service providers a highly effective and affordable solution to ensure the most **SECURE** and **RESILIENT** infrastructure. Continuous validation is the best way to maintain a future-proof and secure infrastructure. FortiTester defines the **Breach Attack Simulation (BAS)** market, where security operations can assess the people, process, and technology on which the security of their organization depends.

PERFORMANCE TESTING AND TRAFFIC GENERATION

HTTP, HTTPS, HTTP/2, UDP Throughput, RFC2544, SSLVPN and IPSEC testing, Traffic enterprise mix generation, and Q-in-Q traffic generation

BREACH ATTACK SIMULATION

MITRE ATT&CK simulation testing, CVE-based IPS testing, Fuzzing testing, Web/IOT attacks, FortiGuard Malware strike pack, DDoS traffic generation and PCAP replay

COMPREHENSIVE API

Automate testing and simulation with full system, test simulation, and reporting API

SECURE | SPEED | SIMULATE

Highlights

- Up-to-date cyber threat simulation based on real world insight of FortiGuard
- Best price and performance traffic generation and security testing system for enterprises and service providers
- Flexible operation modes from one standalone device up to 8 devices combined in Test Center mode
- Hardware, virtual appliances, and public cloud (AWS, Azure, GCP, OCI and Alibaba)
- Server-Class hardware and packet-processing enhancements
- Throughput Testing up to 80 Gbps/800 Gbps Bi-directional Throughput with Standalone or Test Center mode
- Easy and Simple Web UI

FORTITESTER USE CASES

SECURE INFRASTRUCTURE VALIDATION	Evaluate Advanced Threat Protection (ATP) Technology Validate Technology, People, and Process
BREACH ATTACK SIMULATION	MITRE ATT&CK® Simulation Pre/Post Breach Simulation
VENDOR BAKE-OFF	Datasheet Performance Evaluation Future Proofing
PUBLIC CLOUD TESTING (AWS, AZURE, GCP, OCI, ALIBABA)	Architecture Validation Load Testing in Market Places

Highlights

TRAFFIC GENERATION AND PERFORMANCE TESTING

- HTTP, HTTPS, and HTTP/2
- UDP (PPS/Payload)
- TCP (Throughput, TurboTCP, CPS)
- RFC 2544 / RFC 3511
- SSLVPN and IPSEC testing (CPS/RPS/CC/Throughput)
- PCAP Replay, GTP Replay
- Q-in-Q traffic generation
- Scheduled Testing (hourly, daily, monthly)

Traffic Mix

- Enterprise Mix, Fortinet Enterprise, Enterprise Lite, Custom

Protocol Support

- TCP (CIFS, SMBv2, FIX, FTP, IMAP, LDAP, NFS, POP3, RDP, SMTP, SSH), UDP, DHCP, ICMP, RTSP/RTP

Applications

- Amazon S3, AOL Chat, BitTorrent, DB2, Facebook, Gmail, GTalk, MSSQL, MySQL, NetFlix, Oracle TNS, PSQL, Twitter, WebEx, WhatsApp, Yahoo Mail, YouTube

FLEXIBLE FORM FACTOR

- Powerful Appliances with 1G/10G/40G/100G output
- Up to 80 Gbps (3000E) and 800 Gbps (4000E x8) Bi-Directional traffic simulation
- VM form factor supporting ESXi, KVM, OpenStack
- Public Cloud support: AWS, Azure, Alibaba, GCP, OCI*
- Test Centre Mode - up to 8 devices in cluster (see model compatibility)

BREACH ATTACK SIMULATION

- MITRE ATT&CK® adversary simulation
- Pre and Post breach simulation
- Comprehensive Reporting
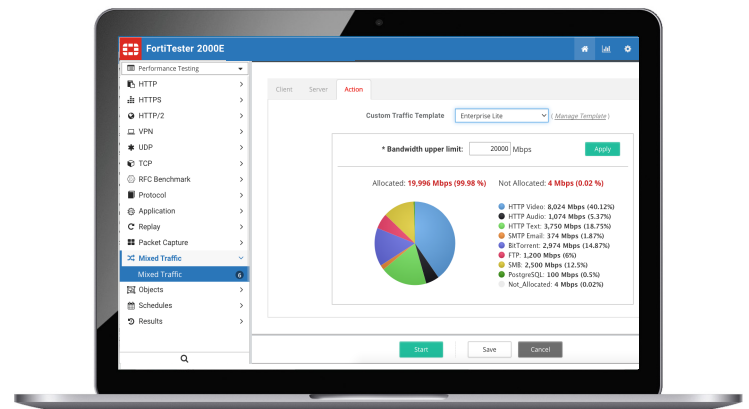
COMPREHENSIVE REPORTING

- PDF Exports
- API retrieval of cases result and reports

SECURITY TESTING

- DDoS testing (HTTP/UDP/TCP session flood)
- TCP / UDP / ICMP / IP Fuzzing Attack
- IPS Attacks (CVE-based and HTTP Evasion, Buffer Overflow, Code Injection, Path Traversal)
- Malware Strike Pack (Updated by FortiGuard daily with categories such as Ransomware and Trojan)
- Web Attacks (Cross Site scripting, SQL injection, Bad Robots, Privilege Escalation)
- Web Crawler (bulk URL replay)

EXTENSIVE API SUPPORT

- Case Management
- System Management
- Object Management
- User Management
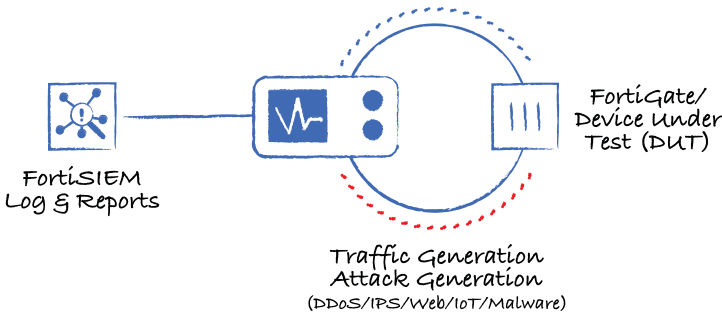- MITRE ATT&CK Management

THIRD PARTY INTEGRATION

- Administrator and RADIUS support
- FortiSIEM native support
- SYSLOG
- SNMP traps and MIBs support
- Certification Management

* BYOL support for public cloud, contact SE if images are not available on market place.

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Deployment

STANDALONE MODE

Test center works with the local traffic generator and receiver.

FortiSIEM
Log & Reports

FortiGate/
Device Under
Test (DUT)

Traffic Generation
Attack Generation
(DDoS/IPS/Web/IoT/Malware)

TEST CENTRE MODE

Scale FortiTester performance by combining up to eight FortiTesters in a cluster.

FortiTester
Clients

FortiGates/Device Under
Test (DUT)

FortiTester
Servers
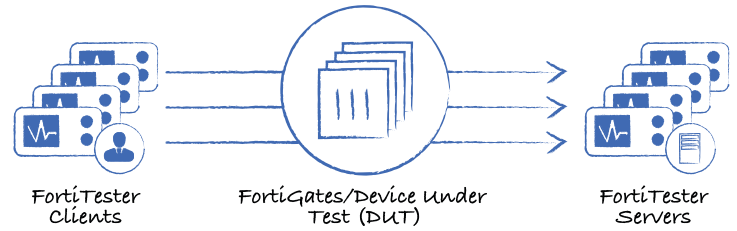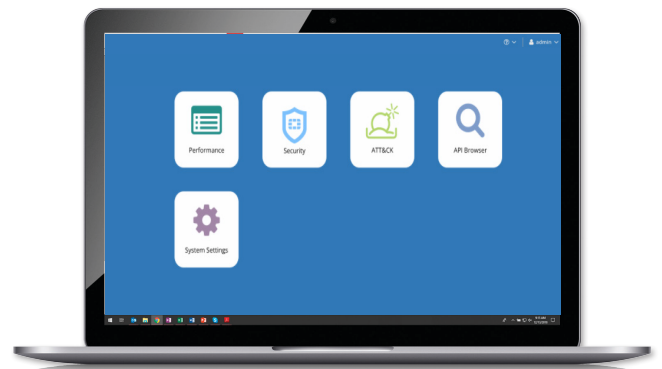
PUBLIC CLOUD SUPPORT

FortiTester supports major public cloud providers to validate cloud infrastructure both in performance and security.

Azure

AWS

ORACLE

Alibaba Cloud

Traffic / Attacks

FortiTester

Office 365

Protected
Virtual Machines
/ Applications

INTUITIVE GUI

FortiTester features a simple, easy to use, and intuitive graphic user interface.

Performance

Security

ATT&CK

API Browser

System Settings

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Specifications

	FORTITESTER 2000E		FORTITESTER 2500E	
Hardware Specifications				
Total Interfaces	4x 10 GE SFP+ slots, 1x Management GE RJ45 port			
Storage	1 TB HD		1 TB HD	
Form Factor	1U			
SSL Acceleration Card	No		Yes	
Performance Examples and Application Support	Standalone mode	Test Center mode with 8 devices	Standalone mode	Test Center mode with 8 devices
HTTP Throughput	20.0 Gbps	160.0 Gbps	20.0 Gbps	160.0 Gbps
HTTP Connections Per Second	1,019,000	7,856,000	1,035,000	8,135,000
HTTP Concurrent Connections	9,000,000	72,000,000	9,000,000	72,000,000
SSL Throughput	15.9 Gbps	119.4 Gbps	14.07 Gbps	109.92 Gbps
SSL Connections Per Second	3,000	24,000	16,900	128,400
SSL Concurrent Connections	80,000	640,000	80,000	640,000
IPsec	Yes	Yes	Yes	Yes
SSL-VPN	Yes	Yes	Yes	Yes
Protocol TCP (CIFS, SMB, FIX, FTP, IMAP, LDAP, NFS, POP3, RDP, SMTP, SSH), UDP, DHCP, ICMP, RTSP/RTP	Yes	Yes	Yes	Yes
RFC2544 and 3511	Yes	Yes	Yes	Yes
IPS, Malware, MITRE ATT&CK, FUZZING, and DDOS	Yes	Yes	Yes	Yes
Replay — PCAP, Traffic, Attack, GTP	Yes	Yes	Yes	Yes
Traffic Mix (Enterprise / Lite / Fortinet Mix)	Yes	Yes	Yes	Yes
Dimensions and Power				
Height x Width x Length (inches)	1.73 x 17.24 x 22.83			
Height x Width x Length (mm)	44 x 438 x 580			
Weight	22 lbs (10 kg)		22.6 lbs (10.3 kg)	
Power Required	100–240V AC, 63-47 Hz, Redundant		100–240V AC, 63-47 Hz, Redundant	
Power Consumption (Average / Maximum)	280 W / 330 W		300 W / 360 W	
Maximum Current	120V/5A, 240V/3A		120V/5A, 240V/3A	
Heat Dissipation	1226 BTU/h		1228.4 BTU/h	
Redundant Power Supplies	Dual Power Supplies			
Environment				
Operating Temperature	32–104°F (0–40°C)			
Storage Temperature	-4–158°F (-20–70°C)			
Humidity	5–95% non-condensing			
Operating Altitude	Up to 7,400 ft (2,250 m)			
Compliance				
Regulatory Compliance	FCC Part 15 Class A, RCM, VCCI, CE, UL/c			
Safety	CSA, C/US, CE, UL			

2000E/2500E – Based on SSL/TLS cipher suite: AES256-GCM-SHA384 with 2K key size.

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Specifications

	FORTITESTER 3000E		FORTITESTER 4000E	
Hardware Specifications				
Total Interfaces	2x 40 G QSFP+ 1x Management GE RJ45 port (break out cable supported)		1x 100 GE QSFP28, 1x GE RJ45 (breakout cable not supported)	
Storage	2 TB HDD		2 TB HDD	
Form Factor	1U		1U	
SSL Acceleration Card	Yes		Yes	
Performance Examples and Application Support	**Standalone mode**	**Test Center mode with 8 devices**	**Standalone mode**	**Test Center mode with 8 devices**
HTTP Throughput	37.48 Gbps	303.12 Gbps	Client-only	376.0 Gbps
HTTP Connections Per Second	1,697,000	13,744000	Client-only	7,200,000
HTTP Concurrent Connections	18,000,000	144,000,000	Client-only	304,000,000
SSL Throughput	23.0 Gbps	184.0 Gbps	Client-only	148.0 Gbps *
SSL Connections Per Second	28,600	176,800	Client-only	120,000
SSL Concurrent Connections	160,000	1,280,000	Client-only	2,560,000
IPsec	Yes	Yes	No (requires additional 4000E)	Yes
SSL-VPN	Yes	Yes	No (requires additional 4000E)	Yes
Protocol TCP (CIFS, SMB, FIX, FTP, IMAP, LDAP, NFS, POP3, RDP, SMTP, SSH), UDP, DHCP, ICMP, RTSP/RTP	Yes	Yes	Client-only	Yes
RFC2544 and 3511	Yes	Yes	No (requires additional 4000E)	Yes
IPS, Malware, MITRE ATT&CK, FUZZING, and DDOS	Yes	Yes	Client-only	Yes
Replay — PCAP, Traffic, Attack, GTP	Yes	Yes	No (requires additional 4000E)	Yes
Traffic Mix Enterprise / Lite / Fortinet Mix	Yes	Yes	No	Yes
Dimensions and Power				
Height x Width x Length (inches)	1.73 x 17.24 x 22.83			
Height x Width x Length (mm)	44 x 438 x 580			
Weight	22.6 lbs (10.3 kg)			
Power Required	100–240V AC, 63-47 Hz, Redundant			
Power Consumption (Average / Maximum)	300 W / 360 W			
Maximum Current	120V/5A, 240V/3A			
Heat Dissipation	1228.4 BTU/h			
Redundant Power Supplies	Dual Power Supplies			
Environment				
Operating Temperature	32–104°F (0–40°C)			
Storage Temperature	-4–158°F (-20–70°C)			
Humidity	5–95% non-condensing			
Operating Altitude	Up to 7,400 ft. (2,250 m)			
Compliance				
Regulatory Compliance	FCC Part 15 Class A, RCM, VCCI, CE, UL/c			
Safety	CSA, C/US, CE, UL			

3000E/4000E – Based on SSL/TLS cipher suite: AES256-GCM-SHA384 with 2K key size

* 4000E has slightly lower SSL performance than 3000E due to using 6 cores instead of 8 cores in 3000E, 2 cores are used for system/management.

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Specifications

	FORTITESTER VM02	FORTITESTER VM04	FORTITESTER VM08	FORTITESTER VM16	FORTITESTER VM32
Virtual Machine					
Hypervisor Support	VMware ESX/ESXi, KVM, AWS, Azure, GCP, OCI, Alibaba				
vCPUs	2	4	8	16	32
Memory	4 GB	8 GB	16 GB	32 GB	64 GB
Storage	60 GB				
Network Interfaces	1 Management (E1000) + 4 Tester (VMXNET3/VIRTIO)				
Traffic Mix Enterprise / Lite / Fortinet Mix	No, Limited Traffic Mix	No, Limited Traffic Mix	Enterprise Lite	Enterprise, Fortinet Mix, Lite	Enterprise, Fortinet Mix, Lite

FortiTester Test Center Mode Support

In order to run Test Center mode, FortiTester supports grouping similar members above in the same Test Center group.

TEST CENTER GROUP	MEMBERS
2K	FTS-2000D, FTS-2000E, FTS-2500E
3K	FTS-3000E
4K	FTS-4000E
VM	FTS_VM_KVM
VM ESXI	FTS_VM
AWS	FTS_VM_AWS
AWS_BYOL	FTS_VM_AWS_BYOL
AZR_BYOL	FTS_VM_AZURE_BYOL
OCI_BYOL	FTS_VM_OCI_BYOL
GCP_BYOL	FTS_VM_GCP_BYOL

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Order Information

HARDWARE		
Product	**SKU**	**Description**
FortiTester 2000E	FTS-2000E	Network Performance and Security Testing System for Enterprises and Service Providers – 1x GE RJ45, 4x 10 GE SFP+, 1 TB storage.
	FTS-2000E-BDL-293-DD	Hardware plus Enterprise bundle (IPS attack PCAPs update, malware strike pack, web protection & MITRE ATT&CK signature updates), with 24x7 FortiCare support
FortiTester 2500E	FTS-2500E	Network Performance and Security Testing System for Enterprises and Service Providers – 1x GE RJ45, 4x 10 GE SFP+, 1 TB storage.
	FTS-2500E-BDL-293-DD	Hardware plus Enterprise bundle (IPS attack PCAPs update, malware strike pack, web protection & MITRE ATT&CK signature updates), with 24x7 FortiCare support
FortiTester 3000E	FTS-3000E	Network Performance and Security Testing System for Enterprises and Service Providers – 1x GE RJ45, 2x 40 GE QSFP, 2 TB HDD storage.
	FTS-3000E-BDL-293-DD	Hardware plus Enterprise bundle (IPS attack PCAPs update, malware strike pack, web protection & MITRE ATT&CK signature updates), with 24x7 FortiCare support
FortiTester 4000E	FTS-4000E	Network Performance and Security Testing System for Enterprises and Service Providers – 1x GE RJ45, 1x 100 GE QSFP28, 2 TB HDD storage. (Please note, 2 devices using Test Center mode are typically required.)
	FTS-4000E-BDL-293-DD	Hardware plus Enterprise bundle (IPS attack PCAPs update, malware strike pack, web protection & MITRE ATT&CK signature updates), with 24x7 FortiCare support

VM WARE		
Product	**SKU**	**Description**
FortiTester VM02	FTS-VM02	Network Performance and Security Testing System for Enterprises and Service Providers – Virtual appliance with 2x vCPU cores and 4 GB memory, supporting VMware/VMXNET3 and KVM/VIRTIO.
	FC-10-FTV02-294-02-DD	Enterprise bundle (IPS attack PCAPs update, malware strike pack, web protection & MITRE ATT&CK signature updates), with 24x7 FortiCare support
FortiTester VM04	FTS-VM04	Network Performance and Security Testing System for Enterprises and Service Providers – Virtual appliance with 4x vCPU cores and 8 GB memory, supporting VMware/VMXNET3 and KVM/VIRTIO.
	FC-10-FTV04-294-02-DD	Enterprise bundle (IPS attack PCAPs update, malware strike pack, web protection & MITRE ATT&CK signature updates), with 24x7 FortiCare support
FortiTester VM08	FTS-VM08	Network Performance and Security Testing System for Enterprises and Service Providers – Virtual appliance with 8x vCPU cores and 16 GB memory, supporting VMware/VMXNET3 and KVM/VIRTIO.
	FC-10-FTV08-294-02-DD	Enterprise bundle (IPS attack PCAPs update, malware strike pack, web protection & MITRE ATT&CK signature updates), with 24x7 FortiCare support
FortiTester VM16	FTS-VM16	Network Performance and Security Testing System for Enterprises and Service Providers – Virtual appliance with 16x vCPU cores and 32 GB memory, supporting VMware/VMXNET3 and KVM/VIRTIO.
	FC-10-FTV16-294-02-DD	Enterprise bundle (IPS attack PCAPs update, malware strike pack, web protection & MITRE ATT&CK signature updates), with 24x7 FortiCare support
FortiTester VM32	FTS-VM32	Network Performance and Security Testing System for Enterprises and Service Providers – Virtual appliance with 32x vCPU cores and 64 GB memory, supporting VMware/VMXNET3 and KVM/VIRTIO.
	FC-10-FTV32-294-02-DD	Enterprise bundle (IPS attack PCAPs update, malware strike pack, web protection & MITRE ATT&CK signature updates), with 24x7 FortiCare support

ACCESSORIES		
Product	**SKU**	**Description (applicable to 3000E only)**
40G/100G QSFP+ to 4x SFP+/ SFT28 optical breakout 1m	FG-TRAN-QSFP-4XSFP	40G/100G QSFP+/QSFP28 to SFP+/SFP28 Parallel Breakout MPO to 4xLC connectors, 1m reach, transceivers not included
40G/100G QSFP+ to 4x SFP+/ SFT28 optical breakout 5m	FG-TRAN-QSFP-4SFP-5	40G/100G QSFP+QSFP28 to SFP+SFP28 Parallel Breakout MPO to 4xLC connectors, 5m reach, transceivers not included

SECURITY SERVICES		
PRODUCT	**SKU**	**Description**
FortiTester 2000E	FC-10-XXXX-293-02-DD	Enterprise bundle (IPS attack PCAPs update, malware strike pack, web protection, and MITRE ATT&CK signature updates), with 24x7 FortiCare support
	FC-10-XXXX-187-02-DD	FortiTester Premium Attack Signatures (FDS update of IPS attack PCAPs update, plus web protection signatures updates)
	FC-10-XXXX-318-02-DD	FortiTester ATT&CK MITRE Attack Package (Windows/ Linux/ Mac attacks based on MITRE techniques)
	FC-10-XXXX-261-02-DD	FortiTester Malware Strike Pack (FortiGuard auto update)

XXXX = hardware model such as FTE2K, FT2KE, FTK3K, FTK4K

SERVICES SKU / UPDATES ENTITLEMENT	ENTERPRISE BUNDLE	PREMIUM ATTACK SIGNATURES	MALWARE STRIKE PACK	MITRE ATT&CK
IPS	✓	✓		
Web Attacks	✓	✓		
IOT / SCADA Attacks	✓	✓		
Malware Strike Pack	✓		✓	
MITRE ATT&CK	✓			✓

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