

DATA SHEET

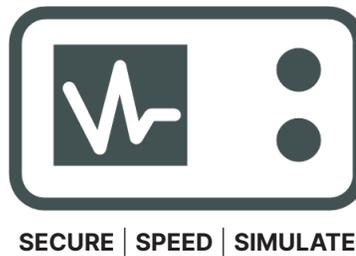
# FortiTester

Available in:



## 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 **Network Performance Testing** and **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 (with 20+ Ransomware), DDoS traffic generation, and PCAP replay



### Comprehensive API

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

## 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

## 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

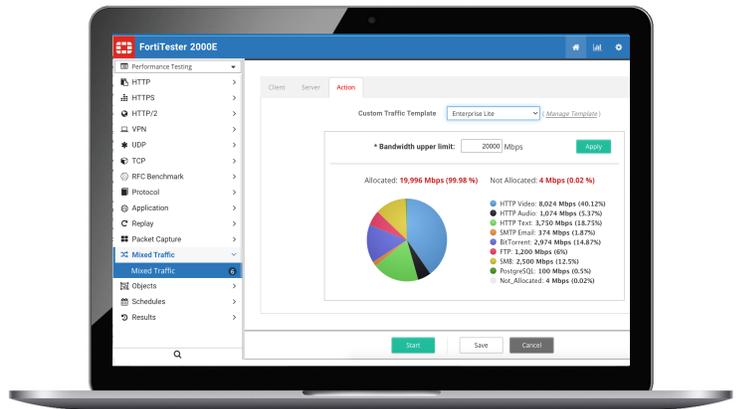
- Powerful Appliances with 1G/10G/40G/100G Output
- Up to 80 Gbps (3000E) and 800 Gbps (4000E x8) Bi-Directional Traffic Simulation
- VM Form Factor supporting ESXi, KVM, OpenStack
- Public Cloud Support: AWS, Azure, Alibaba, GCP, OCI\*
- Test Centre Mode - up to eight devices in cluster (see model compatibility)

### 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

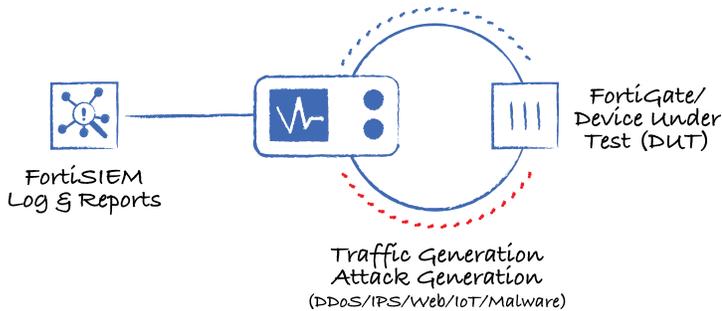
\* BYOL support for public cloud, contact SE if images are not available on market place.



## DEPLOYMENT

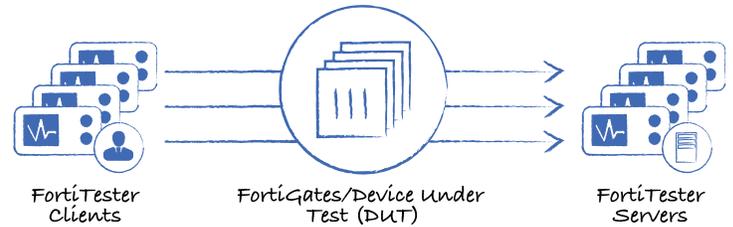
### Standalone Mode

Test center works with the local traffic generator and receiver.



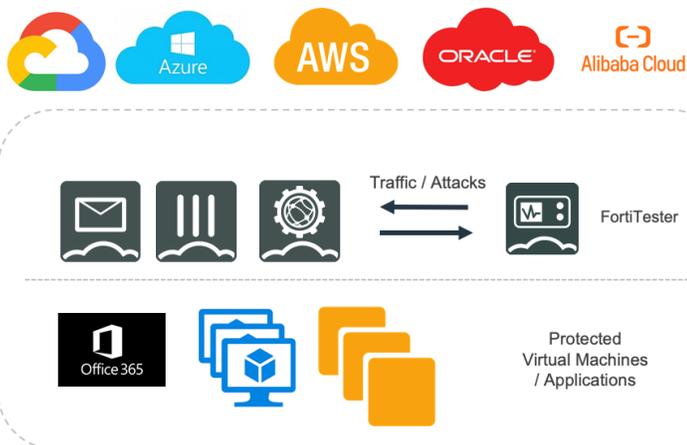
### Test Centre Mode

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



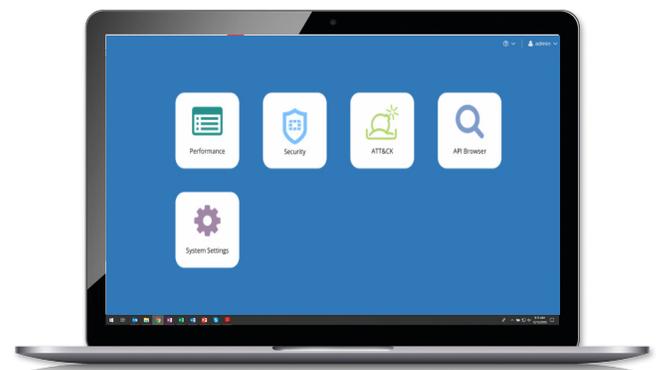
### Public Cloud Support

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



### Intuitive GUI

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



## Use Cases

<b>Secure Infrastructure Validation</b>	Evaluate Advanced Threat Protection (ATP) Technology Validate Technology, People, and Process
<b>Breach Attack Simulation</b>	MITRE ATT&CK® Simulation Pre/Post Breach Simulation
<b>Vendor Bake-Off</b>	Datasheet Performance Evaluation Future Proofing
<b>Public Cloud Testing (AWS, Azure, GCP, OCI, Alibaba)</b>	Architecture Validation Load Testing in Market Places



## SPECIFICATIONS

	FORTITESTER 100F		FORTITESTER 2000E		FORTITESTER 2500E	
<b>Hardware Specifications</b>						
<b>Total Interfaces</b>	2x 10 GE SFP+, 2x GE SFP, 2x GE RJ45, 1x Console GE RJ45, 1x Management GE RJ45, 2x USB 3.0		4x 10 GE SFP+ slots, 1x Management GE RJ45 port		4x 10 GE SFP+ slots, 1x Management GE RJ45 port	
<b>Storage</b>	1 TB HDD		1 TB HD		1 TB HD	
<b>Form Factor</b>	1U		1U		1U	
<b>SSL Acceleration Card</b>	No		No		Yes	
<b>Performance Examples and Application Support</b>	<b>Standalone Mode</b>	<b>Test Center Mode with 8 Devices</b>	<b>Standalone Mode</b>	<b>Test Center Mode with 8 Devices</b>	<b>Standalone Mode</b>	<b>Test Center Mode with 8 Devices</b>
<b>HTTP Throughput</b>	10.0 Gbps	80.0 Gbps	20.0 Gbps	160.0 Gbps	20.0 Gbps	160.0 Gbps
<b>HTTP Connections Per Second</b>	700,000	5,600,000	1,019,000	7,856,000	1,035,000	8,135,000
<b>HTTP Concurrent Connections</b>	9,000,000	72,000,000	9,000,000	72,000,000	9,000,000	72,000,000
<b>SSL Throughput</b>	9.9 Gbps	79.6 Gbps	15.9 Gbps	119.4 Gbps	14.07 Gbps	109.92 Gbps
<b>SSL Connections Per Second</b>	2,500	10,000	3,000	24,000	16,900	128,400
<b>SSL Concurrent Connections</b>	80,000	640,000	80,000	640,000	80,000	640,000
<b>IPsec</b>	Yes	Yes	Yes	Yes	Yes	Yes
<b>SSL-VPN</b>	Yes	Yes	Yes	Yes	Yes	Yes
<b>Protocol TCP (CIFS, SMB, FIX, FTP, IMAP, LDAP, NFS, POP3, RDP, SMTP, SSH), UDP, DHCP, ICMP, RTSP/RTP</b>	Yes	Yes	Yes	Yes	Yes	Yes
<b>RFC2544 and 3511</b>	Yes	Yes	Yes	Yes	Yes	Yes
<b>IPS, Malware, MITRE ATT&amp;CK, FUZZING, and DDOS</b>	Yes	Yes	Yes	Yes	Yes	Yes
<b>Replay — PCAP, Traffic, Attack, GTP</b>	Yes	Yes	Yes	Yes	Yes	Yes
<b>Traffic Mix (Enterprise / Lite / Fortinet Mix)</b>	Yes	Yes	Yes	Yes	Yes	Yes
<b>Dimensions and Power</b>						
<b>Height x Width x Length (inches)</b>	1.73 x 17.32 x 19.69		1.73 x 17.24 x 22.83		1.73 x 17.24 x 22.83	
<b>Height x Width x Length (mm)</b>	44 x 440 x 500		44 x 438 x 580		44 x 438 x 580	
<b>Weight</b>	15.9 lbs (7.2 kg)		22 lbs (10 kg)		22.6 lbs (10.3 kg)	
<b>Power Required</b>	100–240V AC, 50–60 Hz, 6A–3A		100–240V AC, 63–47 Hz, Redundant		100–240V AC, 63–47 Hz, Redundant	
<b>Power Consumption (Average / Maximum)</b>	90W / 120W		280 W / 330 W		300 W / 360 W	
<b>Maximum Current</b>	120V/6A, 240V/3A		120V/5A, 240V/3A		120V/5A, 240V/3A	
<b>Heat Dissipation</b>	477 BTU/h		1126 BTU/h		1160 BTU/h	
<b>Redundant Power Supplies</b>	No		Dual Power Supplies		Dual Power Supplies	
<b>Environment</b>						
<b>Operating Temperature</b>	32–104°F (0–40°C)		32–104°F (0–40°C)		32–104°F (0–40°C)	
<b>Storage Temperature</b>	–4–167°F (–20–75°C)		–4–158°F (–20–70°C)		–4–158°F (–20–70°C)	
<b>Humidity</b>	5–90% non-condensing		5–90% non-condensing		5–90% non-condensing	
<b>Operating Altitude</b>	Up to 7,400 ft (2,250 m)		Up to 7,400 ft (2,250 m)		Up to 7,400 ft (2,250 m)	
<b>Compliance</b>						
<b>Regulatory Compliance</b>	FCC, ICES, CE, RCM, VCCI, BSMI (Class A)		FCC Part 15 Class A, RCM, VCCI, CE, UL/c		FCC Part 15 Class A, RCM, VCCI, CE, UL/c	
<b>Safety</b>	U/cUL, CB, BSMI		CSA, C/US, CE, UL		CSA, C/US, CE, UL	

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



# SPECIFICATIONS

FORTITESTER 3000E		FORTITESTER 4000E		
<b>Hardware Specifications</b>				
<b>Total Interfaces</b>	2× 40 G QSFP+ 1x Management GE RJ45 port (break out cable supported)		1× 100 GE QSFP28, 1x GE RJ45 (breakout cable not supported)	
<b>Storage</b>	2 TB HDD		2 TB HDD	
<b>Form Factor</b>	1U		1U	
<b>SSL Acceleration Card</b>	Yes		Yes	
<b>Performance Examples and Application Support</b>	<b>Standalone Mode</b>	<b>Test Center Mode with 8 Devices</b>	<b>Standalone Mode</b>	<b>Test Center Mode with 8 Devices</b>
<b>HTTP Throughput</b>	37.48 Gbps	303.12 Gbps	Client-only	376.0 Gbps
<b>HTTP Connections Per Second</b>	1,697,000	13,744,000	Client-only	7,200,000
<b>HTTP Concurrent Connections</b>	18,000,000	144,000,000	Client-only	304,000,000
<b>SSL Throughput</b>	23.0 Gbps	184.0 Gbps	Client-only	148.0 Gbps *
<b>SSL Connections Per Second</b>	28,600	176,800	Client-only	120,000
<b>SSL Concurrent Connections</b>	160,000	1,280,000	Client-only	2,560,000
<b>IPsec</b>	Yes	Yes	No (requires additional 4000E)	Yes
<b>SSL-VPN</b>	Yes	Yes	No (requires additional 4000E)	Yes
<b>Protocol TCP (CIFS, SMB, FIX, FTP, IMAP, LDAP, NFS, POP3, RDP, SMTP, SSH), UDP, DHCP, ICMP, RTSP/RTP</b>	Yes	Yes	Client-only	Yes
<b>RFC2544 and 3511</b>	Yes	Yes	No (requires additional 4000E)	Yes
<b>IPS, Malware, MITRE ATT&amp;CK, FUZZING, and DDOS</b>	Yes	Yes	Client-only	Yes
<b>Replay — PCAP, Traffic, Attack, GTP</b>	Yes	Yes	No (requires additional 4000E)	Yes
<b>Traffic Mix Enterprise / Lite / Fortinet Mix</b>	Yes	Yes	No	Yes
<b>Dimensions and Power</b>				
<b>Height x Width x Length (inches)</b>	1.73 × 17.24 × 22.83			
<b>Height x Width x Length (mm)</b>	44 × 438 × 580			
<b>Weight</b>	22.6 lbs (10.3 kg)			
<b>Power Required</b>	100–240V AC, 63–47 Hz, Redundant			
<b>Power Consumption (Average / Maximum)</b>	300 W / 360 W			
<b>Maximum Current</b>	120V/5A, 240V/3A			
<b>Heat Dissipation</b>	1228.4 BTU/h			
<b>Redundant Power Supplies</b>	Dual Power Supplies			
<b>Environment</b>				
<b>Operating Temperature</b>	32–104°F (0–40°C)			
<b>Storage Temperature</b>	-4–158°F (-20–70°C)			
<b>Humidity</b>	5–95% non-condensing			
<b>Operating Altitude</b>	Up to 7,400 ft. (2,250 m)			
<b>Compliance</b>				
<b>Regulatory Compliance</b>	FCC Part 15 Class A, RCM, VCCI, CE, UL/c			
<b>Safety</b>	CSA, C/US, CE, UL			

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

\* FortiTester 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.



## SPECIFICATIONS

	FORTITESTER VM02	FORTITESTER VM04	FORTITESTER VM08	FORTITESTER VM16	FORTITESTER VM32
<b>Virtual Machine</b>					
<b>Hypervisor Support</b>	VMware ESX/ESXi, KVM, AWS, Azure, GCP, OCI, Alibaba				
<b>vCPUs</b>	2	4	8	16	32
<b>Memory</b>	4 GB	8 GB	16 GB	32 GB	64 GB
<b>Storage</b>	60 GB				
<b>Network Interfaces</b>	1 Management (E1000) + 4 Tester (VMXNET3/VIRTIO)				
<b>Traffic Mix Enterprise / Lite / Fortinet Mix</b>	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
100	FTS-100F
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
OCL_BYOL	FTS_VM_OCL_BYOL
GCP_BYOL	FTS_VM_GCP_BYOL

## ORDER INFORMATION

HARDWARE		
Product	SKU	Description
<b>FortiTester 100F</b>	FTS-100F	Network Performance and Security Testing System for Enterprises and Service Providers – 1x GE MGMT port, 2x GE RJ45 ports, 2x GE SFP ports, 2x 10GE SFP+ ports. 1TB HDD Storage.
	FTS-100F-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
<b>FortiTester 2000E</b>	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
<b>FortiTester 2500E</b>	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
<b>FortiTester 3000E</b>	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
<b>FortiTester 4000E</b>	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



## ORDER INFORMATION

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 XXXX	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 FT01H, 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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