Arbor Threat Mitigation System

Proven, Comprehensive Threat Protection and Service Enablement

KEY FEATURES & BENEFITS

Surgical Mitigation

Sophisticated DDoS countermeasures automatically remove only the attack traffic without interrupting legitimate users and services.

Adaptive DDoS Protection (ADP)

Adaptive DDoS Protection combines threat intelligence and machine learning to accelerate attack detection, response and reduce operational overhead. Proactively and precisely identify a broader range of attacks, and dynamically track and mitigate the DDoS attack as it evolves.

Full Portfolio of Mitigation Platforms and Capacities

Choose from a variety of mitigation platforms and capacities including: 2U appliances, KVM & VMware hypervisors, and baremetal.

Single Pane of Glass covers up to 40 Tbps of Mitigation

Centralized management with NETSCOUT® Arbor Sightline provides DDoS defense that can scale mitigation capacity to an unprecedented 40Tbps.

Managed Services Enabler

Meet dynamic demands for DDoS protection services. Arbor TMS can deliver profitable in-cloud SaaS DDoS protection services for customers.

Flexible Deployment

Deploy application-layer intelligence, threat detection and surgical mitigation in different portions of your network for infrastructure protection and more profitable managed DDoS protection services.

Internet Service Providers (ISPs), Cloud Providers and Enterprises face a common problem. Distributed Denial of Service (DDoS) attacks are a major risk to service availability. The power, sophistication and frequency of DDoS attacks continue to increase. Data center operators and network providers need a defense that is effective, cost-efficient and easily managed. NETSCOUT® Arbor Threat Mitigation System™ (TMS) is the acknowledged leader in DDoS protection. More Service Providers, Cloud Providers and large Enterprises use Arbor TMS for DDoS mitigation than any other solution.

Arbor TMS DDoS Defense Specifications

Simultaneous Sessions	Not session limited
Deployment Modes	Inline Active, Inline Monitoring, SPAN port, Diversion/Reinjection
Block Actions	Source blocking/source suspend; per packet blocking; combination of source, header and rate based blocking; Automated BGP Flowspec Source/Destination Blocking
Attack Protections	Reflection Amplification Flood Attacks (TCP, UDP, ICMP, DNS, mDNS, Memcached, SSDP, NTP, NetBIOS, RIPv1, rpcbind, SNMP, SQL RS, Chargen, L2TP, Microsoft SQL Resolution Service); Fragmentation Attacks (Teardrop, Targa3, Jolt2, Nestea); TCP Stack Attacks (SYN, FIN, RST, ACK, SYN-ACK, URG-PSH, other combinations of TCP Flags, slow TCP attacks); Application Attacks (HTTP GET/POST Floods, slow HTTP Attacks, SIP Invite Floods, DNS Attacks, HTTPS Protocol Attacks); SSL/TLS Attacks (Malformed SSL Floods, SSL Renegotiation, SSL Session Floods); DNS Cache Poisoning; Vulnerability Attacks; Resource Exhaustion Attacks (Slowloris, Pyloris, LOIC, etc.); Flash Crowd Protection; Attacks on Gaming Protocols
DDoS Countermeasure	Invalid Packets, IP Address Filter Lists, Black/White Filter Lists, Packet Header Filtering, IP Location Filter Lists, Zombie Detection, UDP Reflection/Amplification Protection, Per Connection Flood Protection, Spoofed TCP SYN Flood, TCP SYN Authentication, TCP Connection Limiting, TCP Connection Reset, Payload Regular Expression Filter, Shaping, IP Location Policing, Inline Filter, Blacklist Fingerprints, Protocol Baselines HTTP Authentication, HTTP Malformed, HTTP Scoping, HTTP Rate Limiting, HTTP/URL Regular Expression, DNS Authentication, DNS Malformed, DNS Scoping, DNS Rate Limiting, DNS Regular Expression, SIP Malformed, SIP Request Limiting, SSL Negotiation, ATLAS Intelligence Feed (AIF)

NETSCOUT TMS Appliances

Features	8100	8200	HD1000
Throughput and Mitigation	Licenses for 1Gbps, 2Gbps, 5Gbps, 10Gbps, 20Gbps, 30Gbps & 40Gbps, up to 37Mpps	Licenses for 20Gbps, 40Gbps, up to 400Gbps mitigation throughput, 200Mpps	Up to eight Packet Processing Modules (PPMs); Any combination of 20Gbps (up to 14Mpps) or 50Gbps (up to 25Mpps) of mitigation throughput, up to 400Gbps, 198Mpps
Physical Dimensions	**Chassis:** 2RU rack height; **Height:** 3.45 inches (8.67 cm); **Width:** 17.14 inches (43.53 cm); **Depth:** 20 inches (50.8 cm); **Weight:** 36.95 lbs. (17.76 kg)	**Chassis:** 2RU; **Height:** 3.4 in (8.68 cm) **Width:** 17.1 in (43.4 cm); **Depth:** 30.39 in (77 cm); **Weight:** 65 lbs (29.5 kg)	**Chassis:** 2U rack height **Weight:** 45.2 lbs (20.5 kg) with 1 PPM, add 1.6 lb (.73 kg) per PPM (up to eight) **Height:** 3.5 in (8.89 cm) **Width:** 17.6 in (44.70 cm) **Depth:** 21 in (53.34 cm)
Power Options	**DC:** 2 x DC redundant, hot swap capable power supplies; **DC Power Ratings:** -40 to -72 Vdc, 28/14 A max (per DC input); **AC:** 2 x AC redundant, hot swap capable power supplies; **AC Power Ratings:** 100 to 240 VAC, 50 to 60 Hz, 12/6 A max; Both AC and DC power options are 850-watt.	Dual hot-swap, redundant (1+1) AC power supplies or DC power supplies: **AC:** 1100 W Platinum (derates to 1050 W @ 110 VAC) **DC:** 1100 W -48 VDC	**AC:** Two 1500-watt redundant power supplies; 100-240V AC, 15-10 A, 50-60 Hz (x2); **DC:** Two 1500-watt redundant power supplies; -48 to -60 Vdc, 44 A (x2)
Power Requirements and Heat	400 Watts (max.) and 350 Watts (nom.) Heat at 1195 BTU/hr @ 350 Watts	1100 Watts (mixed mode), Heat at 4100 BTU/Hr, 50/60Hz, 1100/1050W, 12-6.3 A	(1) MM, (5) fans, (2) QSFP+, (4) QSFP28; (x1) PPM: @ 327 Watts, 1116 BTU/ hr; (x4) PPM: @ 569 Watts, 1940 BTU/ hr ; (x8) PPM: @ 932 Watts, 3180 BTU/ hr
Hardware Bypass	External		
Hard Drives	2 x 240GB SSD drives, RAID 1	2 x 480GB SSD drives, RAID 1	2 x 480GB SSD drives, RAID 1
Environmental	**Operating:** Temperature: 41°F to 104°F (5° to 40°C) Humidity: 5–85%; **Non-Operating:** Temperature -40° to 158°F (-40° to 70°C); Humidity: 95%	**Operating:** Temperature: 50°F to 95°F (10°C to 35°C) at altitudes less than 2953 ft (950 m) with no direct sunlight on the equipment; Humidity: 10% to 80% relative humidity with 69.8°F (21°C) maximum dewpoint (non-condensing); Airflow direction: Front to back. For proper airflow, ensure that the air intake is positioned in a cold aisle and the air exhaust is positioned in a hot aisle.	**Operating:** Temperature: 39.2° to 104°F (-4° to 40°C) Relative humidity: 5 to 93%, non-condensing
Network Interfaces	8 x 10GE SFP+ and 8 x 1 GE SFP or Dual 2 x 100GbE QSFP28 (totaling 4 x 100GbE)	4 x 100GE - One to Four 100GbE QSFP28 (SR or LR) optical transceivers, or 4 x 400GE = One to Four 400GbE QSFP112 or QSFP56-DD (DR4, SMF, MPO-12) optical transceivers	4 x 100 GigE + 8x 10 GigE = One to four 100 GbE QSFP28 (SR or LR) optical transceivers + One or two 4 x 10 GbE QSFP+ (SR or LR Lite) optical transceivers with one 4 x 10 GbE breakout cable on each transceiver 16 x 10 GigE = One to eight 10 GbE SFP+ (SR or LR) optical transceivers + One or two 4 x 10 GbE QSFP+ (SR or LR Lite) optical transceivers with one 4 x 10 GbE breakout cable on each transceiver
Management Interfaces	2 x 1G or 2 x 10G Copper, RJ-45 serial console support	2 x 1GE + 2 x 10GE copper management ports	4 x 1G Copper, RJ-45 serial console port
Average Latency	Less than 80 microseconds		

Features	8100	8200	HD1000
Regulatory Compliance	UL/cUL/EN/IEC 62368-1; EN 55032; EN 55035; CISPR 32, 35; ETSI EN 300 386; cULus Mark; IC ICES-003 Class A; EN 61000-3-2; EN 61000-3-3; EMC Directive 2014/30/EU; Low Voltage Directive 2014/35/EU; UL 60950-1 2nd edition/CSA C22.2 No.60950-1-07 2nd Edition; FCC 47 CFR Parts 15, Class A; CB Certificate & Report including all international deviations; RoHS 2011/65/EU; Moroccan Conformity Mark; VCCI (Japan); BIS (India); CCC (China); RCM (Australia/New Zealand); KCC (South Korea); EAC-R Approval (Russia); South Africa LoA; Mexico (UL-CoC for Mexico); NEBS-ready	Regulatory M/N: E82S, UL/cUL/EN/IEC 62368-1; CSA C22.2 No. 62368-1:19, 3rd Ed; EN 55032; EN 55035; CISPR 32, 35; IC ICES-003 Class A; FCC 47 CFR Parts 15, Class A; CE, CB Certificate & Report including all international deviations; RoHS, 2011/65/EU; Israel, Moroccan Conformity Mark; VCCI (Japan); RCM (Australia/New Zealand); KCC (South Korea); EAC-R Approval (Russia); South Africa LoA; Mexico.	RoHS 6/6, IEC/EN/UL/ CSA 60950-1, FCC Part 15 Subpart BClass A, ETSI EN 300 386, CE Mark, RCM Mark, KCC Mark, EAC Mark, BIS, CCC Mark, CB Certificate and Report to IEC62368-1 andIEC60950-1, 2nd edition and all international deviations, EMC Directive 2014/30/EU, Low Voltage Directive 2014/35/EU

Software TMS and Distributed TMS

Both Software TMS and Distributed TMS can be deployed in virtualized environments and bare-metal. Distributed TMS can also be deployed with dedicated TMS appliances or COTS hardware.

Deployment	VMWare ESXi or Linux KVM, x86_64	Bare metal
CPU Cores	3-128 virtual CPU cores	4-64 physical CPUs with hyperthreading enabled
RAM	9.5-197GB	14-194GB
Storage	100GB minimum	100GB minimum
Management Interfaces	1-2	1-2
Mitigation Interfaces	1-16	1-16
Mitigation Throughput	50Mbps up to 55Gbps Up to 11Mpps	50Mbps up to 110Gbps or more based on hardware performance Up to 29Mpps
Average Latency	<3ms	<1ms
Supported NFV Management and Orchestration	OpenStack (Heat, Tacker), Ansible, Cisco NSO/ESC, Nokia CloudBand, AWS CloudFormation	

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