

Arbor Networks® APS

Always on, in-line, DDoS protection

KEY FEATURES AND BENEFITS

Always On, In-Line, DDoS Protection

Out of the box, On-premise protection against volumetric, state-exhaustion and application-layer DDoS attacks.

Inbound and Outbound Protection

Stop in-bound DDoS attacks and out-bound malicious activity from compromised internal hosts.

Intelligent Cloud Signaling

When needed, signal upstream to Arbor Cloud (or your ISP) to stop large attacks that will overwhelm your on-premises protection.

ATLAS Intelligence Feed

Protection that is continuously armed with the latest, global, threat intelligence from Arbor's Security & Engineering Response Teams (ASERT).

Managed APS (mAPS) Service

Rely upon the industry leading expertise of Arbor networks to manage and optimize your DDoS protection.

SSL Decryption

Stop DDoS attacks hidden in encrypted traffic.

Support for IPV6

Detect and stop both IPv4 and IPv6 attacks.

Support for Virtual Environments

Leverage the benefits of a virtualization to quickly turn up DDoS protection. vAPS is a virtual version of the APS appliance that supports VMware vSphere, KVM hypervisors and VNF orchestration via Cloud-Init and OpenStack.



The Security Division of NETSCOUT

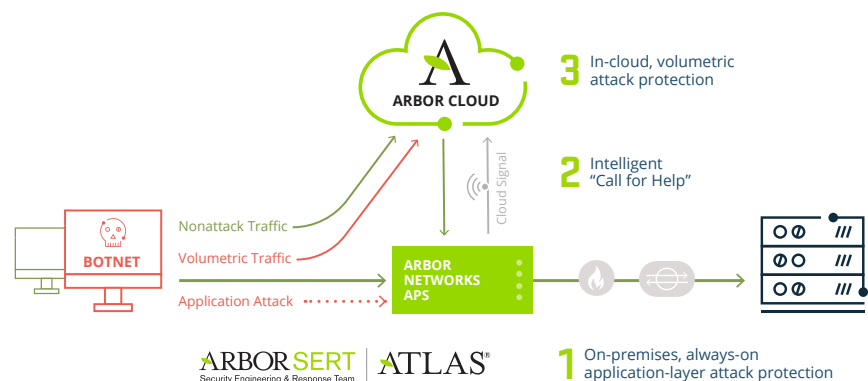
As your dependency for web-based applications and services increase, the risk of distributed denial of service (DDoS) attacks grows. In Arbor Networks' latest *Worldwide Infrastructure Security Report*, respondents reported seeing more complex attacks — such as botnets or malware in conjunction with DDoS. And in more traditional volumetric-based attacks, the size of the attack continues to grow. The Arbor Networks portfolio of solutions tackles these advanced threats head-on by providing you a complete view of network activities for fast remediation and expert-level blocking.

Arbor Networks® APS helps protect business continuity and availability from the growing constellation of DDoS attacks and other advanced threats. It provides the world's most advanced and sophisticated attack detection and mitigation technology in an easy-to-deploy platform designed to automatically neutralize IPv4 and IPv6 attacks before they impact critical applications and services.

With the ATLAS® Intelligence Feed capability, real-time updates containing actionable intelligence on DDoS and advanced threats attacks can help prevent an attack from entering your network. Such capabilities are:

- DDoS protection from active botnets
- DDoS protection from active DDoS campaigns based on IP reputation
- Advanced web crawler service
- GeoIP tracking
- Domain and IP reputation to block threats

APS enhances your overall protection by using Cloud Signaling™ to connect local protection with cloud-based DDoS services. With Cloud Signaling, APS automatically alerts upstream service providers, such as your ISP or Arbor Cloud™, when larger attacks threaten availability. This allows for a faster time to mitigate attacks.



The fully integrated combination of 1) APS on premises for always on, in-line protection against application-layer attacks; 2) Intelligent Cloud Signaling to 3) Arbor Cloud to stop the larger attacks—all continuously armed with the global threat intelligence of ATLAS/ASERT—offers the most comprehensive DDoS protection solution in the industry.

Arbor Networks APS Platforms

HARDWARE

Features	2000 Series	2100 Series	2600	2800
Physical Dimensions	Chassis: 2U rack height; Height: 3.45 inches (8.67 cm); Width: 17.4 inches (43.53 cm)			
	Depth: 24 inches (61 cm); Weight: 41 lbs. (18.5 kg)		Depth: 20 inches (50.8 cm); Weight: 36.95 lbs. (16.76 kg)	
Power Options	DC: 2 x DC redundant, hot swap capable power supplies DC Power Ratings: -48 to -60 Vdc, 13 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, 6/3 A max (per AC input)		DC: 2 x DC redundant, hot swap capable power supplies DC Power Ratings: -48 to -72 Vdc, 30 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 (per AC input)	
Hard Drives	2 x 120 GB SSD in RAID 1 Configuration		2 x 120 GB SSD in RAID 1 Configuration 2 x 240 GB SSD in RAID 1 Configuration	
Environmental	Operating: Temperature 0° to 95°F (10° to 35°C), Humidity 5 to 85% Non-Operating: Temperature -40° to 158°F (-40° to 70°C), Humidity 95%		Operating: Temperature 41° to 131°F (-5° to 55°C), Humidity 5 to 85% Non-Operating: Temperature -40° to 158°F (-40° to 70°C), Humidity 95%	
Memory	24 GB		32 GB	64 GB
Processor	Single Intel Xeon (4-core) E5620	Dual Intel Xeon (6-core) E5645	2 x Intel Xeon E5-2608L v3 (6 cores) 2 GHz	Dual Intel Xeon (12-core) E5-2648L v3 -1.80GHz
Operating System	Our proprietary, embedded ArbOS® operating system			
Management Interfaces	2 x 10/100/1000 BaseT Copper; RJ-45 serial console port		2 x 10/100/1000 BaseT Copper; RJ-45 serial console port	
Protection Interface	<ul style="list-style-type: none"> • 8 x 10/100/1000 BaseT Copper • 8 x GE SX; or 8 x LX Fiber 	<ul style="list-style-type: none"> • 12 x 10/100/1000 BaseT Copper • 4 x 10/100/1000 BaseT Copper • 4 x GE SX Fiber, 4 x GE LX Fiber • 12 x GE SX/LX Fiber • 4 x 10 GE SR/LR Fiber 	<ul style="list-style-type: none"> • 4, 8 or 12 1G bypass ports (copper, sx fiber, lx fiber) • 4 x 10 G bypass ports plus 0, 4 or 8, 1 G bypass ports 	<ul style="list-style-type: none"> • 4 x 10 GigE (SR or LR mixed fiber) • 8 x 10 GigE (SR or LR or mixed fiber) • 8 x 10 GigE (SR or LR or mixed fiber) + 4 x 1 GigE (SX or LX fiber, or copper)
Traffic Bypass Options	Integrated hardware bypass; Internal "software" bypass to pass traffic without inspection			
Latency	Less than 80 microseconds			
Availability	Inline bypass, dual power supplies, solid-state hard drive RAID cluster			
MTBF	44,000 hours			
Regulatory Compliance	UL60950-1/CSA 60950-1 (USA/Canada); EN60950-1 (Europe); IEC60950-1 (International), CB Certificate & Report including all international deviations; GS Certificate (Germany); GOST R Approval (Russia); CE—Low Voltage Directive 73/23/EEE (Europe); CCC Certification (China); BSMI CNS 13436 (Taiwan); Complies with RoHS Directive 2002/95/EC For only 2100: Common Criteria Certified EAL-2 (2100 series appliance, version 5.4)		UL60950-1/CSA 60950-1 (USA/Canada); EN60950-1 (Europe); IEC60950-1 (International), CB Certificate & Report including all international deviations; GS Certificate (Germany); EAC-R Approval (Russia); CE—Low Voltage Directive 73/23/EEE (Europe); BSMI CNS 13436 (Taiwan); KCC (South Korea); RoHS Directive 2002/95/EC (Europe)	
Inspected Throughput	2002: 500 Mbps 2003: 1 Gbps	2104: Up to 2 Gbps 2105: Up to 4 Gbps 2107: Up to 8 Gbps 2108: Up to 10 Gbps; software upgrade to 15Gbps	Licenses for 500 Mbps, 1 Gbps, 2 Gbps, 5 Gbps, 10 Gbps, 15 Gbps, 20 Gbps	Licenses for 10 Gbps, 20 Gbps, 30 Gbps, 40 Gbps; software upgradeable
Maximum DDoS Flood Prevention Rate	Up to 3 Mpps	Up to 11.4 Mpps	Up to 15 Mpps	Up to 28.80 Mpps
Simultaneous Connections	Not applicable: APS does not track connections			
HTTP(s) Connections/Sec	111K at recommended protection level; 186K filter list only protection	368K at recommended protection level; 613K filter list only protection	368K at recommended protection level; 613K filter list only protection	1,351K at recommended protection level; 1,497K filter list only protection
SSL Decryption Options	Inspected Throughput: Up to 750 Mbps HTTPS Connections: Up to 7,500 Concurrent Sessions: Up to 150,000	Inspected Throughput: Up to 5 Gbps HTTPS Connections: Up to 45,000 Concurrent Sessions: Up to 150,000	Inspected Throughput: Options for 750 Mbps and 5 Gbps HTTPS Connections: Up to 7,500 (750M HSM) or 45,000 (5G HSM) Concurrent Sessions: Up to 150,000	Note: Planned for 2016 Inspected Throughput: Up to 5 Gbps HTTPS Connections: Up to 45,000 Concurrent Sessions: Up to 150,000
	FIPS 140-2 Level 2 and 3 support; Separate "Trusted-Path" Administration for FIPS 140-2 Level 3; Secure tamper-proof enclosure; Keys cleared if enclosure breached; Power: <25 Watts; Operating Temperature: 0 to 50 C; Regulatory Compliance: CTUVus UL (USA/Canada), FCC / ICES Class A			
Protected Endpoints	Unlimited			
Authentication	On device, RADIUS; TACACS			
Management	SNMP gets v1, v2c; SNMP traps v1, v2c, v3; CLI; Web UI; HTTPS; SSH customizable, role-based management			
Protection Groups	50			
Reporting and Forensics	Real-time and historical IPv4 and IPv6 traffic reporting, extensive drill-down by protection group and blocked host including total traffic, passed/blocked, top destination URLs/services/domains, attack types, blocked sources, top sources by IP location. Packet visibility in real-time.			
DDoS Protection	TCP/UDP/HTTP(S) flood attacks, botnet protection, hactivist protection, host behavioral protection, anti-spoofing, configurable flow expression filtering, payload expression-based filtering, permanent and dynamic blacklists/whitelists, traffic shaping, multiple protections for HTTP, DNS and SIP, TCP connection limiting, fragmentation attacks, connection attacks.			
Modes	Inline active; inline inactive (reporting, no blocking); SPAN port monitor			
Notifications	SNMP trap, syslog, email			
Cloud Signaling	Yes (collaborative DDoS attack mitigation with service provider or Arbor Cloud)			
Web-Based GUI	Supports multi-language translated user interfaces			
Supported Browsers	Internet Explorer v10-11, Firefox ESR v31, Firefox v40, Chrome v44, Safari v6			

VIRTUAL APS (vAPS)

Features	Hypervisor	
Supported Hypervisor	VMware vSphere 5.5+	KVM kernel 3.19 QEMU 2.0
Minimum Virtual Machine Requirements	vCPUs: 1; NICs: 1 to 10; Memory: 6 GB; Storage: 100 GB	
Inspection Throughput/Instance	1 Gbps	
Maximum DDoS Flood Rate/Instance	910 Kpps	600 Kpps
Throughput, Max Flood/Server	4 Gbps, 2.40 Mpps	
Virtual Network Function (VNF) Orchestration	Cloud-Init v0.7.6, Openstack Kilo and Mitaka series	



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DS/APS/EN/0516-LETTER