

# Arbor Cloud DDoS Protection for Enterprises

## Global, Intelligently Automated Protection from DDoS Attacks

### KEY FEATURES & BENEFITS

#### Global DDoS Protection

A single solution offering carrier-agnostic, global DDoS protection, backed by world-class security intelligence and industry-leading DDoS protection products.

#### Multi-Tbps of In-Cloud Protection

Worldwide scrubbing centers with over 11 Tbps of network mitigation capacity offers comprehensive protection from the largest DDoS attacks.

#### Cloud Only and/or Hybrid Protection

The Arbor Cloud solution can be deployed as a cloud-only and/or an intelligent combination of in-cloud and on-premise DDoS protection- providing you the flexibility to design comprehensive DDoS protection that fits your environment.

#### Powered by Global Threat Intelligence

Arbor Cloud DDoS protection solutions are continuously armed with the latest global threat intelligence from NETSCOUT® Arbor's ATLAS® and ATLAS Security Engineering & Response Team (ASERT).

#### Automated DDoS Attack Detection and Mitigation

Using stateless packet-processing technology and/or cloud-based IP flow analysis, DDoS attacks can be automatically detected and routed to Arbor Cloud global scrubbing centers for mitigation.

#### Managed Services

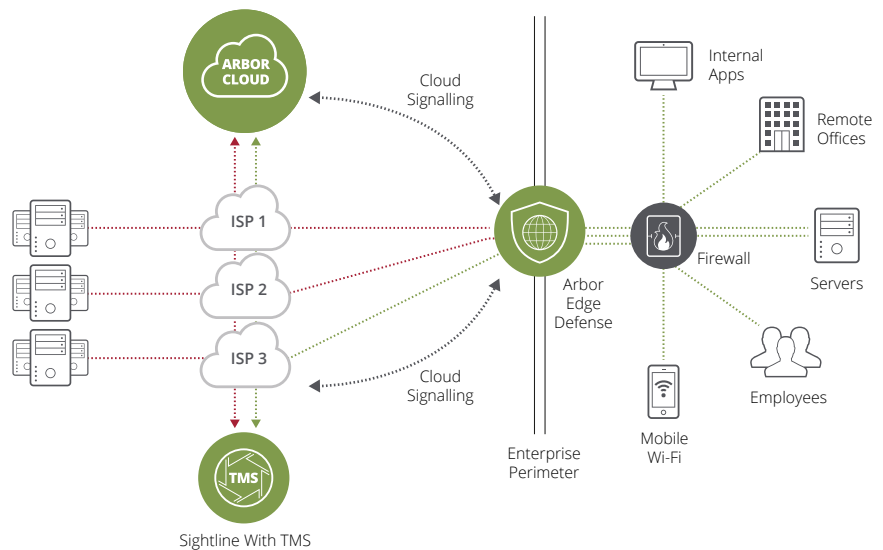
Rely upon the industry-leading expertise of Arbor Networks to manage and optimize your on-premise DDoS protection.

The trend for DDoS attacks is not favorable for Enterprises. Volumetric attacks are growing. The increasing popularity of reflection/amplification attacks is adding a new layer of complexity. Modern-day DDoS attacks now employ a combination of volumetric, TCP-state exhaustion and application-layer attack vectors. Arbor Cloud™ provides global, cloud-based traffic scrubbing services tightly integrated with NETSCOUT's Arbor Edge Defense for on-premise DDoS mitigation. This multi-layered approach to DDoS protection is an Enterprise best practice for mitigating today's dynamic multi-vector DDoS attacks.

#### Layered Protection Against Modern-Day DDoS Attacks

As part of a layered approach to DDoS protection, Arbor Cloud provides in-cloud protection from advanced and high-volume DDoS attacks without interrupting access to your applications and services. Arbor Cloud's automated or on-demand traffic scrubbing service, staffed by Arbor's DDoS security experts, defends against volumetric DDoS attacks that are too large to be mitigated on-premise.

NETSCOUT's on-premise component - AED provide always-on, in-line, stateless, packet-based DDoS attack detection and mitigation. AED can detect and stop all types of DDoS attacks. However, in the event of a large volumetric DDoS attack that will overwhelm internet-facing circuits and local protection, AED using a powerful feature called "Cloud Signaling™" can automatically notify and reroute attack traffic to an appropriate Arbor Cloud scrubbing location where the attack is mitigated. The combination of AED on-premise, Cloud Signaling and Arbor Cloud offers the most comprehensive protection from the modern-day DDoS attack.



**Figure 1: The fully integrated combination of 1) AED/APS on-premise to stop application layer attacks; 2) Cloud Signaling to intelligently reroute large attack to Arbor Cloud; 3) Cloud-based Flow collection, attack detection and reroute to Arbor Cloud; 4) Multi-Tbps of Arbor Cloud global scrubbing; 5) All continuously armed with the global threat intelligence of ATLAS/ASERT – offers the most comprehensive DDoS protection solution in the industry.**



Cloud Signaling also works with Arbor Sightline and Threat Mitigation System (TMS) deployments; typically deployed in service provider or larger enterprise network environments. A deployment could have the combination of both AED and Arbor Sightline/ TMS on-premise automated DDoS attack protection.

On-premise, packet-based protection can be augmented with Arbor Cloud's Flow Monitoring and Detection Service which will collect and analyze IP Flow from local routers. Using unique algorithms during a base line period of approximately 10 days, volumetric DDoS attacks (i.e. reflection / amplification) can be detected in as little as one second and automatically be routed to one of the Arbor Cloud global scrubbing centers.

## Arbor Cloud Specifications

### Arbor Cloud Security Operations and Scrubbing Centers

- Operations Center: North America (Sterling, VA).
- Scrubbing Centers: 14 located in US (New York, Ashburn, San Jose, Los Angeles, Dallas), Europe (Amsterdam, Frankfurt, Marseille, London, Stockholm) Asia (Sydney, Tokyo & Singapore) and Latin America (Sao Paulo).
- Network/Mitigation Capacity: 11+ Tbps.

### Service Packages & Options

- All services based upon IPv4/IPv6 clean traffic throughput - license options include 100Mbps, 500Mbps, 1Gbps, 2Gbps, 3Gbps, 4Gbps, 5Gbps, 6Gbps, 8Gbps and 10Gbps; (10Gbps+ entitlements available up on request) unless noted, no setup fee for standard provisioning; includes access to customer portal, ASERT intelligence, attack analysis and warnings; 24x7 Level 1, 2 and 3 support services.
- **Arbor Cloud Connect:** On-demand/automated in-cloud DDoS attack protection with optional integration with on-premise Arbor AED or Sightline/TMS products. Includes one, 72-hour mitigation per year, unlimited netblocks, 5 DNS hostnames, 1 GRE tunnel. Additional mitigations, GRE tunnels, DNS hostnames, SSL certs and Flow Monitoring and Detection service sold separately.
- **Arbor Cloud Essentials+:** On-demand/automated in-cloud DDoS attack protection with optional integration with on-premise Arbor AED or Sightline/TMS products. Includes unlimited mitigations per year, unlimited netblocks, 5 DNS hostnames, 1 GRE tunnel. Additional GRE tunnels, DNS hostnames and SSL certs and Flow Monitoring and Detection service sold separately.
- **Arbor Cloud Always-On:** Always-On, in-cloud DDoS attack detection and protection. Includes unlimited netblocks, 5 DNS hostnames, 1 GRE tunnel. Additional GRE tunnels, DNS hostnames and SSL certs sold separately.
- **Flow Monitoring and Detection:** Automated in-cloud attack detection using IP flow data sent from customer router(s) into Arbor Cloud for mitigation. Available in addition to Arbor Cloud Connect and Essentials+ packages. Annual licensing options from 1 to 30 routers.
- **Equinix Cloud Exchange (ECX) Integration:** Layer-2 connections available for clean traffic return from Arbor Cloud. Customer must also or already be part of the ECX fabric and is responsible for providing connectivity into and over ECX.
- **Arbor Cloud Direct Connect:** Direct or Cross Connect from Arbor Cloud scrubbing center to customer router. One-time set up fee per 100Gbps router port required. Subsequent monthly recurring fee per 10Gbps, 40Gbps or 100Gbps of bandwidth.
- **Arbor Sightline to Arbor Cloud Signaling:** Automated signaling from on-premise Arbor Sightline/TMS deployment to Arbor Cloud for cloud-based mitigation. One-time setup fee required.

### On Premise Options

#### NETSCOUT Arbor Edge Defense (AED)

- Always on, In-line, packet-based detection and mitigation.
- 2U appliance (mitigation up to 40 Gbps); Virtual appliance (mitigation up to 1 Gbps).
- Cloud Signaling to automatically redirect large DDoS attack traffic to Arbor Cloud.
- 3M+ IoCs to detect and block outbound communication.
- Supported Hypervisors: VMware, KVM; Supported VNF.
- Orchestration: Cloud-Init, Openstack.

#### Arbor Sightline and Threat Mitigation System (TMS)

- Sightline: Network visibility and DDoS attack detection via IP Flow collection and analysis.
- TMS: Surgical mitigation via appliances (500 Mbps–400 Gbps), 6U chassis (10– 100 Gbps); virtualized in Cisco ASR 9000 Router (10– 60 Gbps) and KVM & VMware hypervisor (1-40 Gbps).
- Cloud Signaling to automatically redirect large DDoS attack traffic to Arbor Cloud.
- Orchestration: Openstack (Heat, Tracker), Ansible, Cisco NSO/ESC, Nokia CloudBand, AWS CloudFormation.



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