Executive Summary

Distributed denial-of-service (DDoS) attacks continue to be a prevalent threat to networks and applications around the world. Fortinet FortiDDoS appliances offer industry-leading DDoS detection and mitigation for all types of Layer 3, 4, and 7 DDoS attacks. FortiDDoS can mitigate any DDoS attack up to the maximum limit of available bandwidth. Yet, even with a strong mitigation approach, pervasive DDoS attacks can still saturate incoming links, causing upstream routers to overflow buffers and discard packets at random. This type of link saturation can render the good traffic unusable. By combining FortiDDoS mitigation appliances with cloud-based Baffin Bay Networks Riverview DDoS Protection Service, customers gain the confidence of a truly unified approach to DDoS attack remediation with actionable, shared threat intelligence.

A Joint Approach for High-volume DDoS Mitigation

FortiDDoS and Baffin Bay Networks work in tandem to detect and mitigate high-volume DDoS attacks. The FortiDDoS on-premises appliance works to transmit real-time threat information to the cloud-based partner solution, Baffin Bay Networks. When the FortiDDoS on-premises appliance detects an attack that approaches the capacity of a customer’s bandwidth links, it automatically alerts Baffin Bay Networks via the FortiDDoS open API. Notifications include detailed information on the types and sizes of attacks FortiDDoS has detected, along with the attacked subnets or IP addresses. This attack information is used to automatically configure attack filters at Riverview Threat Protection Centers (TPCs) and to process Border Gateway Protocol (BGP) diversion of the customer-bound traffic to the TPCs. Once scrubbed, clean traffic is returned to the customer site, usually via a Generic Routing Encapsulation (GRE) tunnel. FortiDDoS continuously inspects traffic inside the GRE tunnel, searching for new potential threat vectors.

With Baffin Bay Networks, customers benefit from both a cloud-based service and a team of security experts who can continuously monitor customer attacks, block malicious traffic near its source, and transport clean traffic back to the customer to maintain normal business functions. Baffin Bay Networks leverages its globally distributed TPCs to protect against multivector Layer 3 and Layer 4 volumetric attacks as well as Layer 7 attacks. FortiDDoS works to continuously monitor returned clean traffic for all parameters to maintain graphing, logging, and reporting.

FortiDDoS Mitigation Appliances

FortiDDoS appliances detect and prevent DDoS attacks while providing real-time network visibility. FortiDDoS helps protect internet-facing infrastructures from threats and service disruptions by finding and mitigating network and application-layer DDoS attacks. It defends critical on-premises and cloud infrastructures from attacks while relying on sophisticated filtering technologies to allow secure traffic to continue to flow. These scalable, high-performance appliances deliver proven DDoS defenses, are completely interoperable with a customer’s existing security technologies and network infrastructure, and seamlessly integrate with other Fortinet Security Fabric products.

Solution Benefits

- Always-on DDoS defense delivered via the FortiDDoS on-premises appliance(s)
- Rapid and wide-ranging DDoS mitigation from single-packet scans to full-link line-rate attacks
- Superior cloud mitigation for saturating volumetric attacks that exceed network capacity
- Utilization of a joint on-premises and cloud-based solution to create massive scalability
- Minimized operational involvement with attack redirection to cloud, based on customer-defined thresholds and automated BGP diversion
- DDoS event reporting and analytics on-premises, coupled with visibility of attack countermeasures applied in the cloud
- Next-generation technology, built to grow with the needs of a customer’s business
- FortiDDoS open API integration with Baffin Bay Networks Riverview DDoS Protection Service provides scalable mitigation protection
Cloud Signaling

FortiDDoS and Baffin Bay Networks have agreed to use the FortiDDoS cloud signaling open RESTful API that enables interoperability with Fortinet Security Fabric partners. FortiDDoS on-premises devices automatically generate alerts based on predefined attack thresholds and sends them to Baffin Bay Networks to begin mitigation services, providing customers with the combined benefits of both on-premises and cloud-based DDoS protection services. Alerts generated from the FortiDDoS appliances and delivered to Baffin Bay Networks can be viewed by customers on the Baffin Bay Networks customer portal.

![Diagram of cloud signaling process](image)

FortiDDoS detects a link-saturating DDoS attack and sends an alert with attack information to the cloud DDoS service provider. Traffic is then redirected via BGP to the cloud DDoS scrubbing sites.

Figure 1: FortiDDoS and Baffin Bay Networks Riverview DDoS Protection Service working together to mitigate an attack.