DYNAMICALLY SCALE SECURITY CLUSTERS USING SDNs WITH THE RADWARE/NOVIFLOW SOLUTION

CONCERNS AND CHALLENGES

Recently there has been a tremendous increase in demand for network and cloud-based services for both public and private usage. The multiplication of mobile and connected devices, the proliferation of streaming video content services and the virtualization of network services have paralleled the challenges associated with delivering increased network capacity and ensuring data quality as it moves from web to mobile to machines. Unfortunately, cyberattacks seek to exploit the larger attack surface presented by these new services, such as the rapidly growing array of IoT devices that are used to execute million-node, volumetric DDoS attacks. Lastly, digital transformation introduces a new set of cybersecurity constraints due to the number of active devices (either physical or virtual) within a service provider's data center. Overcoming these issues requires leveraging the capabilities of software-defined networks (SDNs) to dynamically scale and accelerate security clusters.

THE SOLUTION

The joint Radware/NoviFlow solution combines NoviFlow's *CyberMapper*™ SDN-enhanced forwarding plane with Radware's industry-leading on-premise DDoS mitigation device, DefensePro, and cybercontrol application, DefenseFlow, to deliver high throughput and scalable DDoS mitigation. This eliminates the need for load balancing, network changes/updates and provides a mitigation API interface that allows Radware's solutions to directly control the instantiation and provisioning of traffic steering on NoviFlow's NoviWare switches. The result is an automated DDoS attack prevention service that scales on-demand while reducing total networking CAPEX and OPEX.

THE BENEFITS

Service providers will benefit from the Radware/Noviflow integrated solution to provide cost-effective scaling and load balancing of security services. This integrated solution leverages two best-of-breed solutions in the market to provide industry-leading DDoS detection and mitigation with advanced SDN scalability to protect carrier networks from application-, volumetric- and network-level attacks.

Dynamically Scale Your DDoS Mitigation Capabilities

The NoviFlow routing and switching solution consists of two components: the *CyberMapper* controller, which can be deployed as a virtual machine or an appliance, and match/action pipeline switches with NoviWare NOS for intelligent traffic steering for DDoS mitigation. Together, they bring SDN scaling capabilities to an organization's security cluster. NoviFlow's *CyberMapper* is a high-performance threat intelligence gateway that can accelerate and scale cybersecurity and packet brokering processes into the terabit scale using a single switch that leverages open standard interfaces such as OpenFlow, gRPC and P4 Runtime.

CyberMapper enables NoviWare™ compatible switches (such as NoviFlow's NoviSwitches and select white box switches) to deliver packet filtering, threat mitigation and load balancing directly within the network in a simple, scalable, compact form factor and at a fraction of the price of conventional threat mitigation solutions.

The joint *CyberMapper*/Radware DDoS solutions allow organizations leveraging Radware's DDoS mitigation system to scale security services by increasing throughput to an existing cybersecurity cluster.
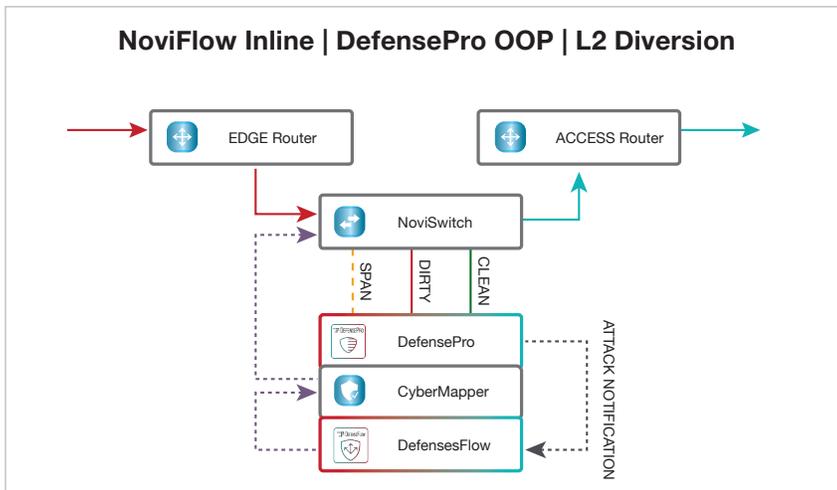

Figure 1

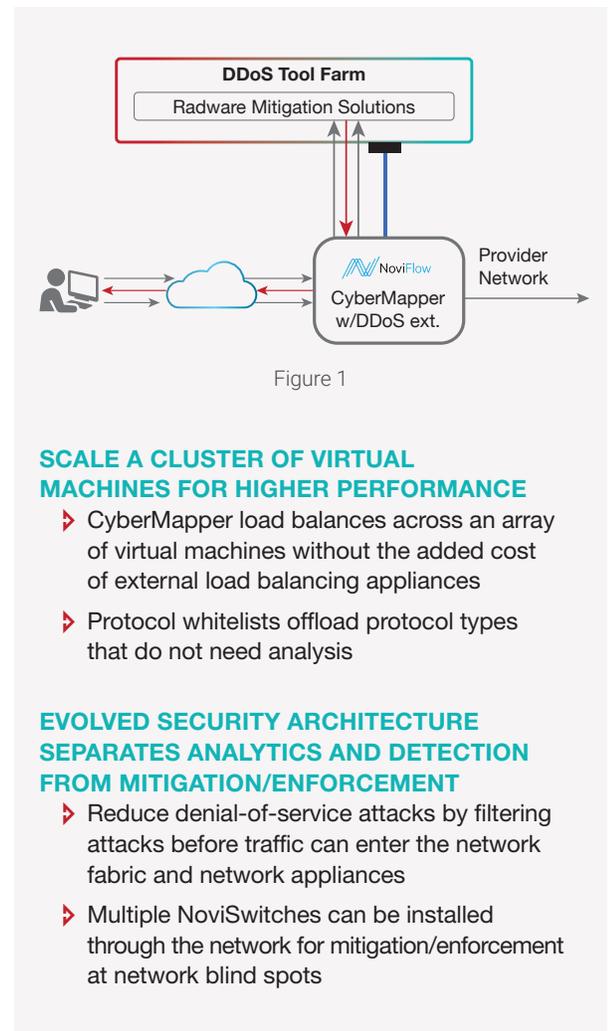### NoviFlow Inline | DefensePro OOP | L2 Diversion

Figure 2

SCALE A CLUSTER OF VIRTUAL MACHINES FOR HIGHER PERFORMANCE

- CyberMapper load balances across an array of virtual machines without the added cost of external load balancing appliances
- Protocol whitelists offload protocol types that do not need analysis

EVOLVED SECURITY ARCHITECTURE SEPARATES ANALYTICS AND DETECTION FROM MITIGATION/ENFORCEMENT

- Reduce denial-of-service attacks by filtering attacks before traffic can enter the network fabric and network appliances
- Multiple NoviSwitches can be installed through the network for mitigation/enforcement at network blind spots

SUMMARY

This joint offering allows organizations to accelerate security performance via selective filtering of key network traffic and allows a service provider to dynamically "throttle" (spin-up or spin-down) services to meet security demands.

About Radware

Radware® (NASDAQ: RDWR) is a global leader of cybersecurity and application delivery solutions for physical, cloud and software-defined data centers. Its award-winning solutions portfolio secures the digital experience by providing infrastructure, application and corporate IT protection and availability services to enterprises globally. Radware's solutions empower more than 12,500 enterprise and carrier customers worldwide to adapt quickly to market challenges, maintain business continuity and achieve maximum productivity while keeping costs down. For more information, please visit www.radware.com.

Radware encourages you to join our community and follow us on: Radware Blog, LinkedIn, Facebook, Twitter, SlideShare, YouTube, Radware Connect app for iPhone® and our security center DDoSWarriors.com that provides a comprehensive analysis of DDoS attack tools, trends and threats.

About Noviflow

NoviFlow is a leading vendor of high-performance SDN network operating software (NOS), cybersecurity middleware and programmable network solutions, and netElastic, a leading innovator of NFV software for carriers, today announced a joint solution to help carriers meet (and benefit) from exploding bandwidth demand and changing customer needs. The companies will provide a best-of-breed Virtual BNG (vBNG) solution that combines the fastest fully programmable forwarding planes in the market with massively scalable vBNG software.