



## AVX SERIES CASE STUDY

# Telco WAF-as-a-Service

**Data center team gains agility, performance, cost savings and ease of deployment using Network Functions Platforms for new WAF-as-a-Service offering.**

## Background

One of the top-ranked telecommunications service providers in the world operates multiple international data centers (IDCs) throughout its home region. These data centers serve as a web hosting resource and provide value-added security services for a broad range of industries, including government, finance, manufacturing, online gaming and e-commerce.

## Challenges

Over time, customer sites' business volume has increased at a rapid rate, and the volume of attack attempts on these sites has increased in parallel. Customer awareness of the need for security for their respective sites consequently increased day by day, and

## Industry

Top-tier telecommunications service provider

## Challenges

Proposed new service offering required specific characteristics to meet the needs of international data center team

Team needed to quickly and flexibly allocate resources for hosted sites with a unified control platform

Individual sites needed isolation of resources to prevent performance degradation and provide business isolation

Other solutions required network changes that were disruptive to users

CAPEX and OPEX costs must be minimized

## Solution

Multiple redundant pairs of Array AVX Series Network Functions Platforms, running Array's vAPV virtual ADC and WebRAY's RayWAF virtual WAF appliances in a 'firewall sandwich' architecture

## Benefits

Easy-to-use WebUI allows allocation and adjustment of resources on the fly, and provides graphical monitoring at high level as well as granular details

Each instance's physical and software resources are fully isolated to ensure performance and SLAs

Easy deployment and configuration with no network changes needed

Consolidates multiple virtual ADC and WAF appliances into just 2U, saving rack space, power, cooling and CAPEX costs

their requirements for security services gradually became far more detailed and specific.

In particular, protection of the web application layer plays a crucial role in the security of the hosted websites and thus the continuity and integrity of customers' respective businesses. The IDC team began their research for a new service offering, WAF-as-a-Service, to address these customer needs.

The team identified several key requirements for the proposed service offering. Primary among them was agility – the team wished to be able to quickly and flexibly allocate appropriate resources for each managed customer site through a unified control platform. In addition, the team needed to be able to easily view allocated resources in order to improve efficiency.

Performance was also a key concern. Each hosted website would need to be protected exclusively by dedicated computing resources to avoid the potential for performance-impacting resource contention, and the performance impact of processing SSL-encrypted traffic would need to be minimized. The team also wished to implement web application security without changing the existing network structure to minimize disruption and make the process transparent to the managed website customers. And finally, the team wanted to hold down costs for the appliances as well as for space, power, cooling and labor required for deployment.

The IDC team initiated a search for a solution that would meet their requirements. Candidate solutions were put through strict Proof of Concept (POC) testing in order to analyze conformance with the requirements as well as ease of use and other factors.

## Solution

After the POC, the IDC team identified a clear winner: Array Networks' AVX Series Network Functions Platform running WebRAY's RayWAF virtual web application firewall appliances in conjunction with Array's vAPV virtual application delivery controllers (ADCs) was the only solution to meet all the team's requirements.

The AVX Series is a hyperconverged platform designed specifically to run networking and security workloads, such as virtual WAFs, ADCs, NGFWs and similar solutions. Unlike traditional virtual environments, in which resources are shared across multiple VAs, the AVX Series provides guaranteed resources per VA instance, including CPU, memory, I/O and SSL processing. The end result is that the telco data center can achieve agility at scale.

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***“All we had to do was to install the AVX in the rack, connect power and Ethernet, configure the system through the WebUI then wait to see the WAF report.”***

**International Data Center Team Member  
Major Telecommunications Service Provider**

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The platform architecture provides strict segmentation of each vAPV and RayWAF instance, providing complete business isolation of each customer's respective virtual WAF and ADC resources and supporting SLAs. Even hypervisor overhead is segregated from VA instance resources to prevent potential resource contention.

In addition, the Network Functions Platform offers an easy-to-use WebUI that streamlines allocation of resources and other management tasks, and provides summary and granular views of system and VA resources and performance.

The deployment went very smoothly, the IDC team reported. "All we had to do was to install the AVX in the rack, connect power and Ethernet, configure the system through the WebUI then wait to see the WAF report," a team member noted. No additional changes to the network were required.

In terms of cost, each 2RU AVX Series platform supports multiple WebRAY virtual WAFs and virtual ADCs. Rather than deploying multiple 1RU dedicated WAF and ADC appliances, the telco has saved three quarters or more of the rack space required for WAF-as-a-Service, as well as power and cooling costs. In addition, each AVX high-availability pair protects ten or more websites, each with its own segregated ADC and WAF resources.

Since the initial deployment, the IDC team has continued to add more AVX Series platforms as customer demand and website traffic loads have grown. In just one six-month period, the AVX Series and WebRAY's virtual WAF appliances have protected customer websites against literally thousands of attacks.

## Summary

Through the AVX Series Network Functions Platform and WebRAY's virtual WAF appliance, the telco IDC team has rolled out a new, revenue-

generating service offering that provides protection for customers' websites. The AVX Series Network Functions Platform is a pivotal element of the success of the WAF-as-a-Service offering. (See Figure 1, page 4 for a high-level topology view.)

Through the platform, the IDC team gains the agility to quickly and flexibly allocate appropriately-sized resources for each customer site, through an easy-to-use WebUI that also provides overview and granular drill-downs into system and VA performance.

The AVX Series also provides the unique combination of the agility of virtual appliances with the performance of dedicated appliances, giving the team the best of both worlds. Compute, memory, I/O and SSL resources for each customer are walled off from each other, and resources can be adjusted as needed for changing traffic volumes and to meet SLAs.

In addition, the platform required no changes to the existing network structure for a seamless deployment that is totally transparent to the customers. And, by consolidating the functions of multiple WAFs and ADCs into a single appliance, the team realized savings in space, power and cooling as well as CAPEX.

For the telco's IDC team, Array's AVX Series Network Functions Platform delivers a winning combination.

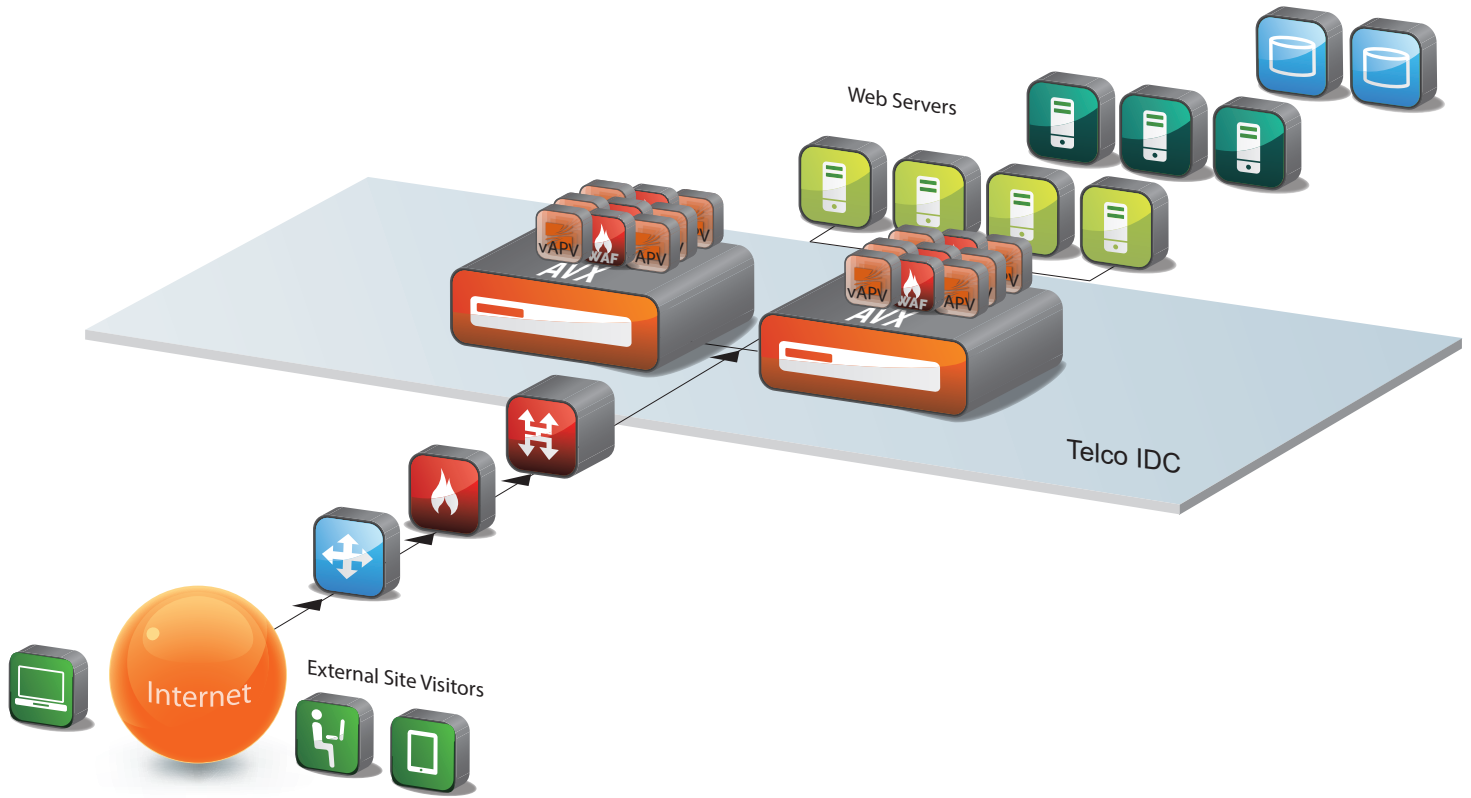


Figure 1: High-Level Topology