



**SOLUTION BRIEF**

# **AVX Series Network Function Platforms Streamline NFV to Deliver Agility-at-Scale**



**Purpose-built hardware, virtualization and software-centric computing combine to create a shared network environment with guaranteed performance.**

#### **PERFORMANCE VS. AGILITY**

As data centers continue to grow in both complexity and expectations, networking and security professionals are increasingly looking to gain agility through software-centric approaches and consolidation. However, for critical network and security solutions – like ADCs, NGFWs, SSL VPNs, IDS/IPS and web application firewalls, for example – the virtual environment presents challenges.

Hardware-based appliances offer high performance and throughput, but require much higher space, power and cooling expenditures. Virtual appliances deliver agility, but suffer in performance due to shared Purpose-built hardware, virtualization and software-centric computing combine to create a shared network environment with guaranteed performance. resources with other VMs, as well as running on generic compute, memory and I/O that is not optimized for these specialized functions.

Network Functions Virtualization (NFV) presents its own set of problems – while it offers great promise in service chaining and orchestration, it is notoriously difficult to configure.

These factors combine to leave IT managers with a difficult, if not unfair, choice – sacrifice agility and pay much more to achieve performance objectives with dedicated appliances, or sacrifice performance to gain agility with virtual appliances..

#### **DELIVERING AGILITY-AT-SCALE**

Array AVX Series network functions platforms are a new type of solution designed to address these challenges by providing guaranteed performance for virtualized network functions through dedicated CPU, SSL, memory and I/O resources, while preserving the agility of virtual appliances, and streamlining NFV deployments – in short, agility at scale. The AVX Series is an open platform that supports Array virtual ADC and SSL VPN functions, as well as other best-of-breed 3rd-party virtual appliances such as NGFWs, IDS/IPS, DDoS protection, and web application firewalls.



# The Agility of Cloud & Virtualization

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The AVX Series network functions platform delivers the flexibility of private cloud virtualized infrastructure, with flexible sizing, functions, orchestration and pay-as-you-go consumption. The AVX Series supports entry-level, small, medium and large instances, so only the resources needed by a given function need be assigned. Instance sizes can be mixed and matched – for example, assign an SSL VPN VA that is used only for occasional remote logins to an entry-level instance, while assigning a load balancer VA with heavy traffic to the highest-performing large instance. The AVX Series also allows pay-as-you-grow consumption – just add licensed networking and security VAs up to the system's capacity. Array's eCloud RESTful API and OpenStack plug-in provide an extensible interface for cloud management, orchestration and automation systems to manage and monitor Array AVX Series platforms and hosted Array VAs.

## The Performance of Dedicated Appliances

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In addition to guaranteed compute, memory, I/O and SSL resources per instance, the AVX Series also dedicates separate resources for hypervisor management – fully segregated from hosted functions – to eliminate resource conflicts. This combination can lead to a multifold increase in performance of 3rd-party VAs over that seen in traditional virtual environments.

## Taking the Guesswork Out of NFV

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Network functions virtualization has been notoriously difficult to implement correctly. Array's network functions platform abstracts the complexity associated with virtual and physical port mapping, CPU pinning NUMA boundary settings, SR-IOV and drivers, thus taking the guesswork out of NFV deployment. In addition, sourcing and configuring SR-IOV ports is streamlined via an easy-to-use, integrated graphical interface.

## Platform Ecosystem

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Array's fast-growing ecosystem for best-of-breed 3rd-party networking and security solutions offers the assurance of technologies that are compatible with the AVX Series network functions platform. Detailed, step-by-step deployment guides available for many ecosystem products allow IT staff to deploy with confidence.

## Superior Economics & Value

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Through the AVX Series network functions platform, data center managers can reduce costs associated with space, power and cooling by consolidating up to 32 one-rack-unit dedicated appliances into just two rack units. In addition, efficiency can be improved through service chaining and orchestration, and reliance on costly hardware can be minimized.



# AVX Series Benefits

- Hosts Array virtual ADCs and SSL VPNs as well as best-of-breed 3rd-party VAs such as virtual Web application firewalls and NGFWs
- Four instance sizes: entry, small, medium and large, to support varying performance needs with the ability to mix-and-match sizes and fine-tune resources if needed
- Dedicated CPU and SSL cores, memory and I/O per VA to ensure both high performance and guaranteed performance
- Management and hypervisor overhead segregated from processing resources to assure performance of instances
- Each VA is fully independent to ensure separation required for compliance and high-security environments
- Pay as you grow by adding licensed VAs up to system capacity Streamlines NFV and SR-IOV deployment through abstraction and easy drag-and-drop interface
- Provides unmatched price performance with the lowest cost per SSL TPS on the market
- Significantly reduces infrastructure costs compared to dedicated hardware appliances or generalpurpose virtualized servers



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