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## AVX SERIES CASE STUDY

# Jiangxi, China University Deployment

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## University deploys Hillstone CloudEdge virtual NGFW on the Array AVX Series for an elastic and high-performance security platform.

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### Background

The joint Array and Hillstone customer is a private non-profit university in Jiangxi, China. Founded in 1994, the university has been ranked No. 1 in private universities by China's Network of Science and Education Evaluation since 2007. The university has approximately 38,000 students and 3,000 faculty and staff located on the campus itself, and roughly 200,000 alumni worldwide.

### Challenges

Over time, the campus data centers had become crammed with disparate hardware appliances from multiple vendors. When a new hardware appliance needed to be added to accommodate a requirement, administrators were forced to constantly adjust the deployment environments, thus adding greatly to the complexity of network operations. In addition, the university faced other specific challenges:

#### High-cost, low efficiency traditional dedicated hardware

For example, two of their high-end firewalls had only 3% utilization. Using their traditional dedicated hardware network architecture,

### Industry:

Higher Education

### Challenges:

Disparate dedicated appliances from multiple vendors added complexity and management overhead

Hardware-based network architecture lacked flexibility

Advanced threat protection was required, but challenging to deploy and manage

### Solution:

Two HA pairs of Array AVX7600 network functions platforms

Hillstone CloudEdge NGFW deployed as a VM on the AVX7600, as well as Array vAPV load balancer and vxAG SSL VPN VMs

### Benefits:

AVX7600 provides guaranteed performance for Hillstone and Array VMs and offers the ability to change sizes and add other networking and security VMs as needed

Hillstone's virtual NGFW provides advanced security services for applications and users

vAPV and CloudEdge are deployed as a service chain, increasing efficiency and security

vxAG provides secure remote access whenever and wherever needed

the existing stand-alone devices could not share hardware resources, thus contributing to inefficiencies in the environment.

### **Multiple vendors led to complex administration and troubleshooting**

The existing network architecture was comprised of stand-alone load balancers and firewalls, with different operating systems from multiple vendors. This architecture not only required an excessive amount of rack space and power consumption, but also lacked a unified management platform. For any business adjustments, such as adding new devices, or troubleshooting network problems, administrators needed to coordinate with each vendor, and modify multiple hardware devices at each layer. The administrative overhead was costing the university both cycles and time.

### **Hardware-based network architecture lacks flexibility**

Traditional dedicated hardware network architectures lack the flexibility to easily scale up or down as requirements change. When hardware devices could not meet performance requirements, the architecture thus could not address the performance of network functions. The only solution the university had to address performance needs was to upgrade existing devices or add more dedicated appliances, which led to higher CAPEX.

### **Advanced threat protection became challenging**

Sophisticated, targeted advanced threats and attacks, such as ransomware, have become among the biggest threats to the university's data centers. Security solutions such as Next-Generation Firewalls (NGFW) increasingly became required for the comprehensive defense capabilities that they can provide.

Due to all of these challenges and more, the university sought a network functions virtualization

solution that would bring together the robust security benefits of the virtual Next Generation Firewall from Hillstone with the agility and performance of the Network Functions Platform Platform from Array Networks. This solution, which is both scalable and cost-effective, addresses today's advanced threat protection challenges.

## **Solution and Results**

The university deployed two pairs of Array AVX7600 Network Functions Platforms in high-availability clusters, and distributed different-sized virtual instances of Hillstone and Array products based upon the requirements. The virtual instances include Array's vAPV load balancing function, Array vxAG SSL VPN function, and Hillstone Networks NGFW functions, among others. The Array AVX Series consolidates multiple network and security functions into a single appliance to reduce rack space and power requirements, and provides unified management across all functions.

## **Benefits**

Hillstone's Virtual NGFW, CloudEdge, embedded with the Hillstone Networks StoneOS operating system, is deployed as a virtual machine on the AVX Series, and provides advanced security services for applications and users in any virtualized environment. It provides comprehensive security features including granular application identification and control, VPN, intrusion prevention, anti-virus, attack defense and cloud-sandbox to fully keep a business secure and operational.

The Array AVX7600 provides guaranteed performance for virtualized network functions through dedicated CPU, SSL, memory and I/O resources. The AVX Series is an open platform that supports Array virtual ADC and SSL VPN functions, as well as 3rd-party virtual appliances such as the

Hillstone CloudEdge NGFW. The platform ensures the resources are independent among different instances, delivering a 5X performance increase compared to traditional virtual architectures.

The Array Network Functions Platform streamlines the architecture by eliminating the hardware integration problems that are common in multi-vendor environments. It also simplifies the deployment process, and reduces deployment time.

Hillstone CloudEdge and Array's vAPV virtual application delivery controller (load balancer) are deployed as a service chain on the AVX platform. In addition, users can choose from a variety of CloudEdge services such as cloud sandbox, secure remote and mobile access, SSL traffic decryption, URL filtering, and anti-DoS/DDoS, all of which are best-of-breed technologies field-tested by customers in a broad range of industries.

If the university has expansion requirements for one of the network function instances, such as Hillstone CloudEdge, it can be rapidly provisioned and deployed on the AVX Series at scale. This way, the university can fully utilize the resources of the elastic network functions platform.

### Summary

The integrated solution from Hillstone and Array addresses the challenges faced by the university. A network functions virtualization solution that meets all the requirements without performance compromise is now helping the campus deliver on their mission and serve their staff and students in a timely and secure way.

