Array

This ADC is JUST Right

SIMPLE YET POWERFUL, SCALABLE YET COST-EFFECTIVE

APV Series Application Delivery Controllers

Introduction

Selecting an application delivery controller (ADC) is no different than purchasing almost any other networking product; the key is finding the solution that most closely meets your individual requirements while delivering the highest overall value. Just as in buying a car, in networking products there is no "one size fits all." A Ferrari or a Mercedes might be considered "the ultimate", but will it meet the needs of the average family, or make sense financially? In most cases, probably not. This analogy may be simplistic, but a similar dynamic exists for load balancing and application delivery.

After analyzing customer and partner interactions over a multi-year period, two key trends appear to be emerging. The first is a growing realization that many businesses vastly overpay for load balancing and application delivery, either through institutional inertia or a lack of exposure to alternatives – in essence, purchasing a Mercedes when a Chevy or Honda may have sufficed. The second is a growing number of instances where enterprises have attempted to drive down costs by adopting entry-level solutions – a swing from one extreme to another akin to purchasing a Yaris for a family of six.

All too often, enterprises either choose a high-priced solution that far exceeds requirements, or a low-cost solution that doesn't measure up. This is not to say there aren't situations where these solutions are a perfect fit, it is just that there are many more situations where a solution somewhere in between would provide far greater value. This is the gap that is bridged by Array's application delivery solutions; ADCs that are simple yet powerful, and scalable yet cost effective.

In the pages that follow, we will examine the attributes and requirements of large enterprises, medium enterprises and small businesses and the corresponding impacts they have on selecting an ADC that will deliver maximum value. In addition, we will provide an in-depth analysis of Array load balancing and application delivery – solutions designed to meet and exceed enterprise technical requirements without compromising timelines or budgets.

Meeting Technical Requirements

If a product does not meet requirements, does it matter how much it costs? It could be free, but it still would not provide much value – and it might even compromise other key IT initiatives like application security or holding the line on OpEx. In choosing an alternative, or in selecting a solution that will deliver the greatest value, the first step is to define your requirements and ensure that the products you select meet these requirements.

Most modern application delivery controllers (ADCs) offer a wide range of features and capabilities to meet your needs; however in order to define your own requirements, it can be helpful to understand which capabilities enterprises are actually using in the real world. Gartner provides an excellent reference point in their Magic Quadrant for Application Delivery Controllers report of October 2015:

Feature/Capability	% of Survey Respondents Using the Feature/Capability
Server Load Balancing	97%
SSL Offload	85%
Web Content Optimization/Acceleration	37%
Application-Specific Configuration Templates	37%
Global Load Balancing	35%
TCP Multiplexing	30%
Web Application Firewall	30%
Customized Scripting	26%
SSL VPN/User Access Control	13%
Internet Protocol version 6 (IPv6) Gateway Services	6%

Table 1: ADC Features Deployed
Source: Gartner Magic Quadrant for Application Delivery Controllers, October, 20151

Array delivers all of these capabilities and much more as standard in our ADCs; only SSL offloading requires an upgrade to our AppVelocity-S module. In addition, Array pioneered integrated traffic management back in 2000, when other vendors provided only simple load balancing. Today, Array has over 15 years of experience with L4- L7 server load balancing and boasts a product proven across the widest possible spectrum of applications and services. When it comes to SSL offloading, Array shines again. Array's proprietary SSL stack is not only more secure than OpenSSL-based solutions[2] (example: Array is immune to Heartbleed and other vulnerabilities), it also delivers far superior performance – scaling to over 80K 2048-bit SSL transactions per second.

[1] *Gartner does not endorse any vendor, product or service depicted in its research publications, and does not advise technology users to select only those vendors with the highest ratings or other designation. Gartner research publications consist of the opinions of Gartner's research organization and should not be construed as statements of fact. Gartner disclaims all warranties, expressed or implied, with respect to this research, including any warranties of merchantability or fitness for a particular purpose.*

[2] *For reference, the majority of other application delivery controller solutions are based upon OpenSSL.*

While server load balancing and SSL offload are used by the vast majority of ADC customers, roughly a third of ADC users use one or more advanced features. These are features and capabilities that Array has offered since its inception as a provider of integrated traffic management appliances.

Web Content Optimization/Acceleration

All Array ADCs incorporate adaptive compression, dynamic caching and traffic shaping, which along with SSL offload combine to improve application performance by up to 10x and server efficiency by up to 5x.

Application-specific Configuration Templates

Certified Array deployment guides for enterprise applications including Microsoft Exchange, Microsoft SharePoint, Microsoft Lync, Oracle, PeopleSoft, SAP, Citrix, VMware and others ensure optimized and simplified deployment.

Global Load Balancing

Not only does Array integrate GSLB providing multi-site redundancy, as well as proximity and performance-based handling of application requests – Array also integrates link load balancing to provide high availability across multiple ISP connections.

TCP Multiplexing

Like SSL offloading, TCP multiplexing improves both server efficiency and application performance. Connection multiplexing is a standard feature on Array ADCs that creates larger, persistent connections between ADCs and servers to reduce overall latency.

Web Application Firewall

Array ADCs include Web application firewall capability as a standard feature, and do not require the purchase of an additional module as is the case with other ADC vendors. Array ADCs also include DDoS protection and other value-added security features.

Customized Scripting

Array's ePolicy™ Layer-7 scripting tool provides application teams the ability to create custom scripts that modify or enhance application functionality, in many cases eliminating the need to touch applications when tuning for optimized delivery.

SSL VPN/User Access Control

As a leader in SSL VPN, Array offers user access control as a stand-alone solution, or as an integrated solution on Array AVX Series virtualized appliances alongside load balancing, WAN optimization and other application delivery functions.

IPv6 Gateway Services

Array was the first ADC vendor to achieve IPv6 Forum Gold Certified status to support IPv6 transition and the first vendor to offer the performance and scalability to accommodate the larger address space of IPv6 while ensuring compatibility with IPv4 networks.

Future-Proof Platforms

In addition to meeting and exceeding technical requirements for enterprise deployments, Array also outperforms when it comes to supporting scalable platforms and deployment models to meet your needs both today and into the future. Unlike vendors that service only a segment of the market, or run different operating systems on high- and low-end systems, Array's line of dedicated ADC appliances all run the same powerful OS and scale from the entry-level all the way up to high-end enterprise and service-provider-class platforms. For business requirements or application workloads that scale over time, Array's entry-level, mid-range and high-end appliances can be seamlessly swapped without any network or configuration changes.

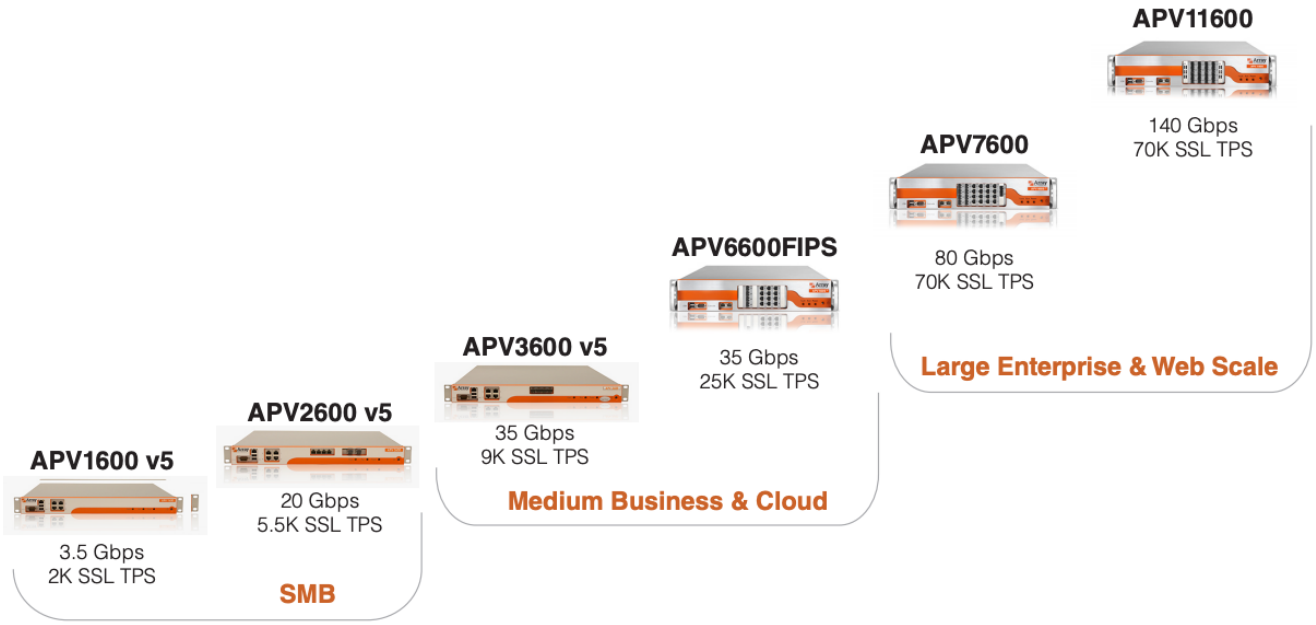

Figure 1: A full product line spanning small/medium businesses through large enterprise & Web scale

For businesses with an eye towards cloud and virtualization, Array's vAPV virtual application delivery controller leads the way. Not only does Array's vAPV run on practically every hypervisor, it is also available on almost every cloud platform. What's more, vAPV is available and certified for hyper-converged infrastructure such as the Nutanix Xtreme Computing platform, and is also available on Array's AVX Series virtualized appliances which deliver the agility of cloud and virtualization with the guaranteed performance of dedicated appliances.

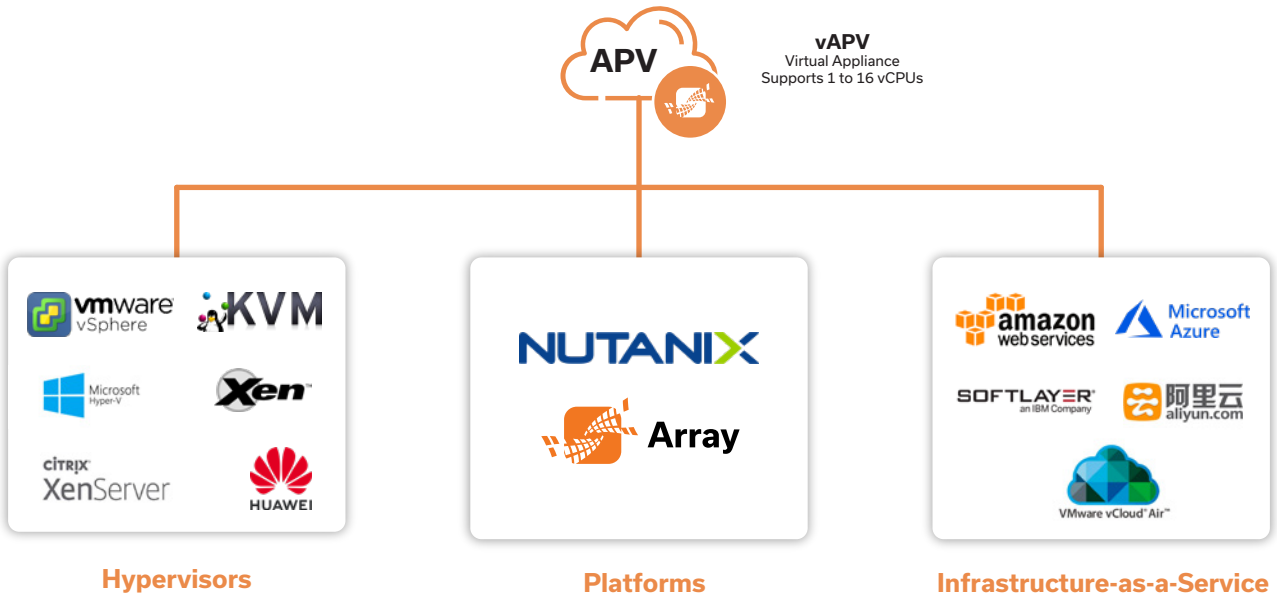

Figure 2: A wide range of cloud and virtualization options

Regardless if you are deploying vAPV virtual application delivery controllers in private or public clouds, Array's extensive integrations with leading orchestration platforms allows IT to define workflows that automate application delivery functions within a larger cloud and virtualization frameworks. Examples include integrations with VMware vRealize Orchestrator, Microsoft System Center Configuration Manager and OpenStack Neutron LBaaS, as well as integration with other home-grown software defined systems via Array's eCloud™ RESTful API.

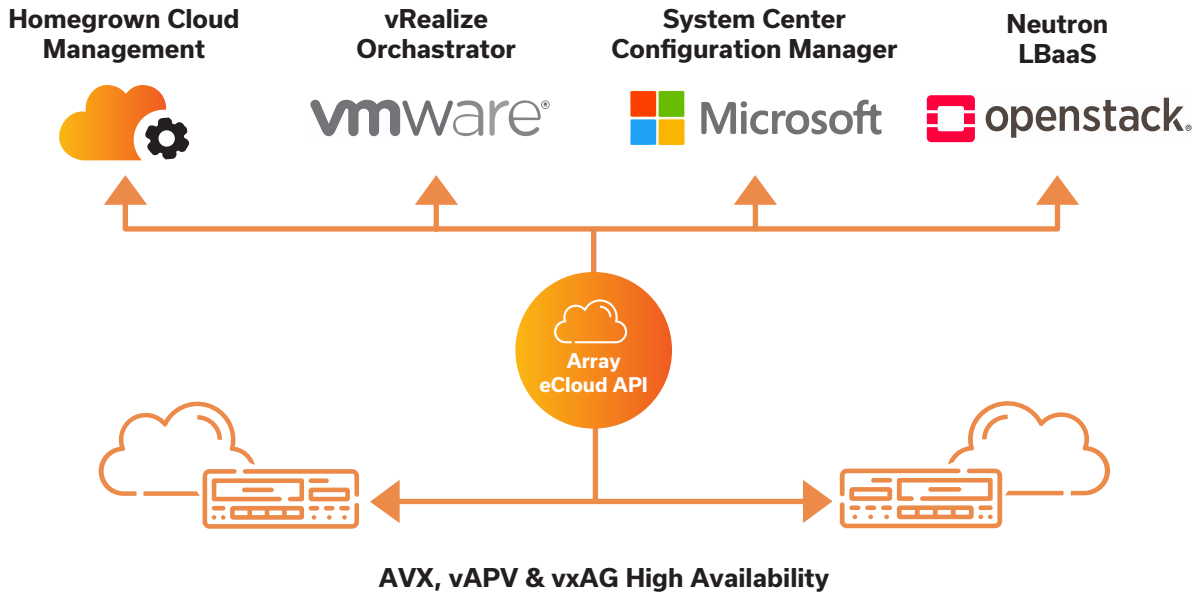

Figure 3: Multiple management and orchestration integration options

Minimizing Cost & Complexity

Having established that Array application delivery controllers support the feature sets and capabilities that the majority of enterprises deploy with an ADC (Table 1 and the Meeting Technical Requirements section), let's take a look at the other side of providing overall value: the ability to reduce cost and complexity. One of the most common complaints of so-called high-end or premium ADCs is that they are far too complex. Yes, they may have features and capabilities not found on other ADCs, but the added functionality comes at the expense of usability. A quick Internet search turns up several quotes that make the point: "One drawback of [Product A] is that because it's so powerful, it is sometimes hard to figure out what you can do with it, and once you figure out what you can do with it, you have to figure out how to actually configure it." "[Product B] is a very consultant friendly solution, unless you invest time to learn [Product B] on your own or you have the money to hire extra resources that specialize on the product."

"An irritating thing with [Product A] is how objects are constructed. For example if you later want to rename an object you must delete ALL dependencies (and redo them as well) all the way to the top object before you rename the particular virtual server and then redo all its options and dependencies down the line."

In contrast, Array ADCs are simple yet powerful. Configuration is provided via either a familiar CLI or an intuitive WebUI. Moreover, Array ADCs are far less dependent on custom scripting for advanced Layer-7 functionality as compared to other ADCs on the market. This is because Array has taken the time to hard code commonly used custom scripts, collapsing complicated functionality into single-line CLI commands and point-and-click WebUI settings that greatly streamline configuration and management and reduce the potential for error.

Examples include one-click settings that configure and optimize common Microsoft applications such as Exchange, Sharepoint and Lync, as well as enterprise applications from leading ISVs including Oracle, SAP, IBM and others. In addition, commands and one-click settings may be combined or nested to achieve advanced custom functionality without the need for extensive training or 3rd party consultants. Where further customization is required, Array's ePolicy scripting capability may be used to service a much smaller and more manageable portion of the overall configuration.

With respect to minimizing cost, Array ADCs tend to be about half the cost of comparable premium or high-end ADCs. But this is just the tip of the iceberg. Unlike vendors that quote a basic platform and then nickel and dime customers for additional functionality, all Array traffic management, acceleration, security and other advanced features are bundled into one simple, one-time purchase – greatly reducing long-term total cost of ownership for both product and support.

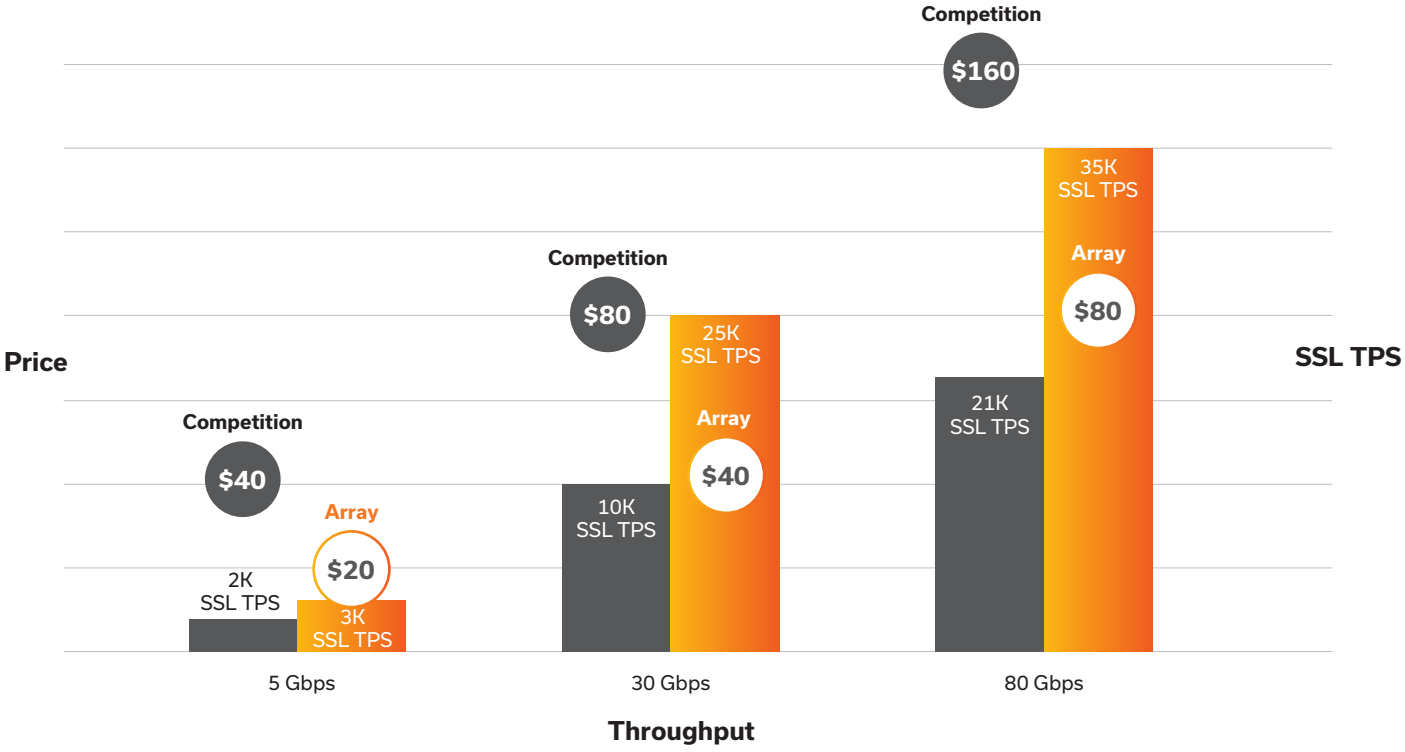

Figure 4: Price/performance against comparable premium or high-end ADCs

In addition to lower purchase costs, customers also get more with Array ADCs. When comparing Array against ADCs with similar throughput, Array commonly supports 50% more SSL transactions per second. This is a big deal; if you recall, Gartner indicated that 85% of ADC purchases include SSL offload. With greater SSL throughput, Array's SSL offload can work more efficiently to take the burden off of servers, freeing capacity for other tasks.

Make an Informed Decision

Bottom line, there are ADCs on the market that can do virtually anything and do them really fast; however, these ADCs are also really expensive, may not be the best fit for your requirements and often times do not deliver the best bang for your buck. Likewise, there are load balancers that cost less than Array ADCs; however, they may not deliver the performance, reliability or features you require and may require a forklift upgrade as demand for your application workloads grow.

Your best bet is to compile a list of your requirements, a list unbiased by the features or capabilities of one brand or another. Of the two or three that match your criteria, test their features and capabilities within your environment or a matching ecosystem, and then go with the vendor that is just right for you (the best overall combination of features, performance, reliability, price, simplicity and support). No matter which vendor you choose, make sure to get your hands on a demo unit so you can test its features and capabilities; also, be sure to insist the vendor provides a sales engineer capable of walking you through the unique capabilities of their ADC.

To help determine which type of ADC might best match your requirements, review the ADC comparison matrix in Appendix A.

To get started with evaluating Array ADCs, visit our download center for a free 30-day trial license of our vAPV virtual application delivery controller:

https://www.arraynetworks.com/search-offers/how-to-try.php

Appendix A: ADC Comparison Matrices

In Some Cases, Needed for LARGE ENTERPRISES

	Premium ADC	Array "Just Right" ADC	Basic Load Balancer
Features	Meets all requirements	Meets almost all requirements	Does not meet requirements
Performance	Meets all requirements	Meets almost all requirements	Does not meet requirements
Support	High priority	Meets almost all requirements	Does not meet requirements
Reliability	99.999%	99.999%	N/A
Cost	Expensive	Cost effective	N/A

In Most Cases, Best for MEDIUM & LARGE ENTERPRISES

	Premium ADC	Array "Just Right" ADC	Basic Load Balancer
Features	Unneeded complexity Advanced features require specialized IT skills or services	Meets almost all requirements Manageable by any IT professional	Does not meet requirements
Performance	Meets all requirements	Meets almost all requirements	Does not meet requirements
Support	Lower priority	High priority	Does not meet requirements
Reliability	99.999%	99.999%	N/A
Cost	Expensive	Cost effective	N/A

In Most Cases, Best for SMALL BUSINESSES (SMBs)

	Premium ADC	Array "Just Right" ADC	Basic Load Balancer
Features	Unneeded features	Meets all requirements	Meets almost all requirements
Performance	Excessive performance	Unneeded performance	Meets almost all requirements
Support	Low priority	Lower priority	Meets almost all requirements
Reliability	N/A	99.999%	Meets almost all requirements
Cost	Expensive	Cost effective	Low cost

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About Array Networks

Array Networks, the network functions platform company, solves performance and complexity challenges for businesses moving toward virtualized networking, security and application delivery. Headquartered in Silicon Valley, Array addresses the growing market demand for network functions virtualization (NFV), cloud computing and software-centric networking.

Proven at more than 5,000 worldwide customer deployments, Array is recognized by leading analysts, enterprises, service providers and partners for pioneering next-generation technology that delivers agility at scale.

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