DATA SHEET

Pulse Secure Application Delivery

HIGHLIGHTS

- Provides an Application Delivery and Load Balancing solution purpose-built for high-performance Network Functions Virtualization (NFV)
- Uniquely customizable, with comprehensive RESTful APIs for service management, and TrafficScript, a powerful data plane scripting technology
- Unmatched scale and performance, able to scale-up with the latest generation of multi-core CPUs, and scale out with N+M clustering for reliability and throughput
- High performance Layer 4 load balancing, supporting up to 140 Gbps in a virtual instance and more than one million Layer 4 connection requests per second

The Leading Virtual Application Delivery Controller (ADC) Designed for Any Cloud or Virtual Environment

Pulse Secure vADC: Better for development, better for deployment, and better for delivery.

Application delivery controllers (ADCs) are an important part of the modern application platform. They provide key functionality to support applications and valuable tools to support operations. Their monitoring and debugging capabilities also help deliver reliable applications with predictable performance.

For the highest levels of application awareness and service isolation, individual ADCs need to be dedicated to each application, and located close to application servers—or even co-located with the application itself.

Designed with this in mind, Pulse Secure vADC is a software-defined ADC with integrated web content optimization (WCO) and web application firewall (WAF) capability designed to deliver application services in the face of these challenges.

Pulse Secure vADC is a new breed of ADC that is natively designed for virtualization and cloud portability. As a pure software solution intended for the widest variety of deployments, the Pulse Secure vADC family enables a more flexible application delivery strategy and provides a common delivery and control platform that can grow with your business.

Pulse Secure vADC software is designed to load balance traffic globally among servers, manage bandwidth, shape traffic, and monitor service levels.

Pulse Secure vADC Product Family

Pulse Secure vADC is designed to make applications faster, reliable, and secure. It works within cloud environments and is easily integrated into an application stack. It is the industry's first complete software-defined Application Delivery Controller (ADC), freeing applications from the constraints of traditional monolithic load balancers.

While traditional ADCs deliver scalability and reliability for enterprise and web applications within the data center, Pulse Secure vADC software goes further to deliver high performance and availability and accelerating applications, including those based in virtual and cloud platforms.

The Pulse Secure vADC product family includes four tools to automate, optimize, secure, and accelerate the performance of online applications:

1. Pulse Secure Virtual Traffic Manager
2. Pulse Secure Services Director
3. Pulse Secure Virtual Web Application Firewall

The Software-Defined ADC Advantage

Traditional load balancers and application delivery controllers (ADCs) simply hand off connections among a few servers to improve uptime.

Software-defined ADCs, designed for the hybrid enterprise provide the required availability, scalability, security, and user experience expected for today's website and business applications.

Feature	Description
High-performance Layer 4 Services	This lightweight Layer 4 stack delivers low latency and high performance load balancing using Data Plane Acceleration mode, supporting linear scaling of CPS and throughput with additional CPU cores, unlike traditional kernel network stacks. More than one million Layer 4 connection requests per second and up to 140 Gbps are achievable on supported platforms.
Flexibility	Application owners look at ADCs as a key control point for a distributed application because they see every single user request and response. However, if the ADC isn't dynamic and flexible like the application itself, the app owner is essentially developing with one hand tied behind his back.
Layer 7 Intelligence	A Layer 7 ADC allows for application level operations and optimizations. It can make decisions based on the application, the user, a given page, a particular kind of response, and much more. It can even change the behavior of the application if necessary. With deep application level intelligence, ADCs can protect advanced threats to security, including SQL injection attacks, cross-side scripting (XSS) attacks, and denial-of-service threats.
Improved User Experience	Software-defined ADCs do more than boost data center efficiency: they go further to ensure that users have a fast, reliable experience. They tap into the application content and deliver it fast and consistently every time. This allows ADCs to give users a better experience by reacting to browser platform, user requirements, and even user location and other characteristics.
Cloud-Readiness	Traditional load balancers and legacy application delivery controllers can't provide the type of diversity, portability, programmability and granular application-level control readily available with Pulse Secure. Software-defined ADCs are designed to work across any public or private cloud.
Developer Support	Imagine your developers running a dedicated on-demand ADC in their own development environments. At their fingertips, they'd have Layer 7 functionality, scale, offload, content optimization, and security components all built into one toolset. They'd be able integrate and test apps while running the ADC has part of the application stack. Your developers can easily use the ADC when it's best suited for the job. And best of all, they can do it for free with the Pulse Secure Developer Edition.

1. Pulse Secure Virtual Traffic Manager

The Pulse Secure Virtual Traffic Manager provides unprecedented scale and flexibility to deliver applications across the widest range of environments, from physical and virtual data centers to public and hybrid clouds. It can increase server efficiency by up to 3x and boost the throughput of application servers by up to 50%, while at the same time reducing response times through dynamic caching, and both local and global load balancing. It reduces the strain placed on application infrastructure with network-level buffering, protocol optimizations, and application-specific measures such as dynamic compression and caching.

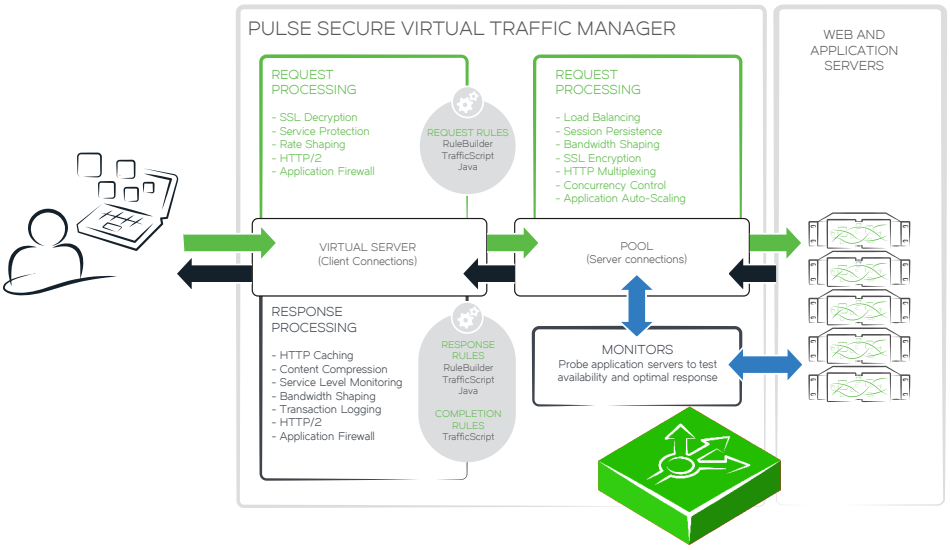

Figure 1. The Pulse Secure Virtual Traffic Manager inspects and processes application traffic, with full payload inspection and streaming.

The Pulse Secure Virtual Traffic Manager delivers:

Improved reliability and scalability	Increased security	Application performance	Integration and control
Health and performance monitors balance client requests across the fastest servers. Seamless application scaling protects against compound failures at all levels.	Protect applications with server isolation, request and response scrubbing, request validation, and protective traffic shaping. Also defend against direct attacks, invalid or malformed requests, and malicious or incidental flash floods.	Offload compute-intensive tasks while integrating HTTP content caching for reduced load on your infrastructure. TCP offload, traffic buffering, and concurrency control let applications run at peak performance.	Implement traffic management policies with Pulse Secure RuleBuilder™ and Pulse Secure TrafficScript™ language, or create Java™ extensions for complex business rules. Integrate the Pulse Secure Virtual Traffic Manager within existing application management and orchestration infrastructure with REST APIs.

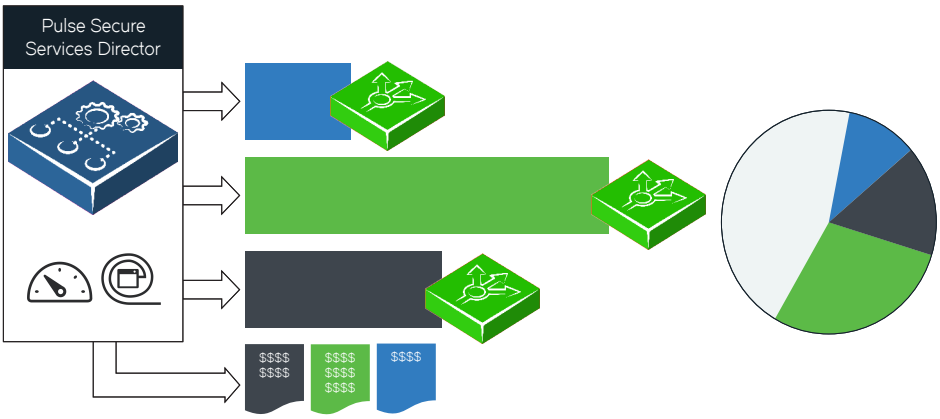

Figure 2. The Pulse Secure Services Director and application delivery-as-a-service.

2. Pulse Secure Services Director

Why pay for ADC capacity you don't need or use? The Pulse Secure Services Director automates the deployment, licensing, and metering of your application delivery services. It gives each of your applications a dedicated ADC instance, in a high-density multi-tenanted platform.

With this elastic deployment architecture, you can scale individual ADC instances up and down to match changes in workload. And with a new services enabling business model, you are in control of your costs. In fact, you can allocate the charges to each client application based on hourly metering to offer ADC-as-a-service to your customers and applications.

The Pulse Secure Services Director delivers:

Scalability	Agility	Control	Dramatic Cost Savings
The Pulse Secure Services Director can manage the lifecycle of thousands of ADC instances under the same shared resourcing pool. With a high-level view of ADC utilization across your data center and cloud deployments, the Pulse Secure Services Director helps you manage application delivery services across all your applications with a common resource model.	Deploy application delivery services in minutes, and exactly where needed to reduce time to market for new applications and services. Create new ADC instances on a per-application or per-tenant basis instantly, start and stop instances for service migration, and even pre-provision ADC instances for even faster "instant-on" services.	Orchestrate Layer 7 services within a virtualized architecture, and integrate into your network and service provisioning systems with a powerful REST-based API. Comprehensive reporting provides intuitive point-in-time information on utilization for service resources.	Optimize resources with enterprise-capacity management and usage model. Right-size your ADC services and save up to 50% in costs, compared to fixed-capacity ADC instances. The Pulse Secure Services Director tracks each instance and creates usage reports for monitoring and billing, and longer-term capacity planning: Enterprises can use this information to cross-charge to each business unit or application owner.

3. Pulse Secure Virtual Web Application Firewall

The Pulse Secure Virtual Web Application Firewall is scalable and application-aware, offering the highest protection and performance in Web and cloud application security. You can protect against known and unknown attacks at the application layer (e.g., OWASP Top10), secure your applications, and meet PCI-DSS compliance requirements with confidence.

Available as a licensed add-on to the Pulse Secure Virtual Traffic Manager, as a stand-alone proxy solution, or as virtual or web server extension, it is the only full-featured application firewall to be supported in public cloud environments such as Amazon AWS for a fully distributed application security platform.

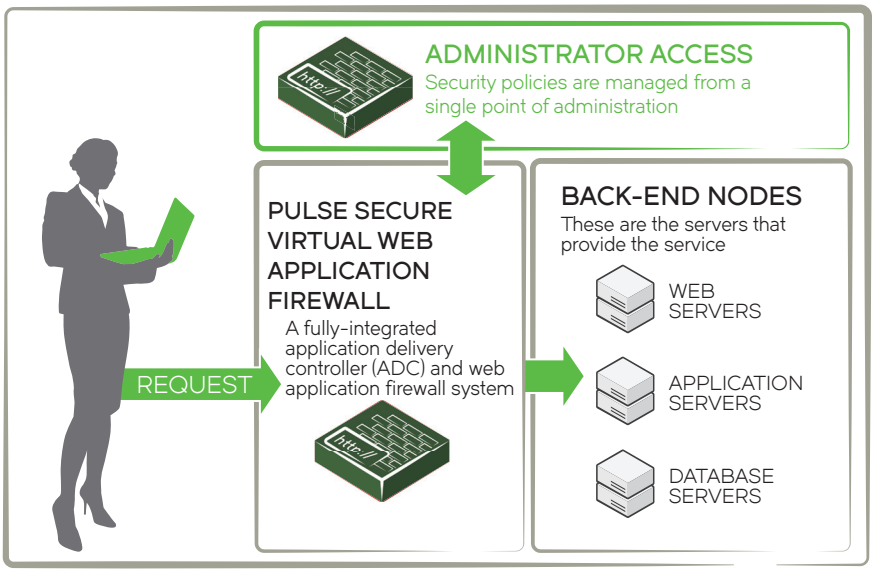

Figure 3. The Pulse Secure Virtual Web Application Firewall is available as an add-on option for the Pulse Secure Virtual Traffic Manager.

4. Feature Tiers for Pulse Secure vADC

Pulse Secure vADC is available in two key feature tiers, the Advanced Edition, and Enterprise Edition.

Advanced Edition: Includes the most common load balancing capabilities, including SSL/TLS offload, session persistence, service level monitoring, simple TrafficScript Rule Builder, and support for IPv6 and HTTP/2. Also includes capabilities such as Global Load Balancing, Route Health Injection, and customisation using powerful TrafficScript scripting language and Java Extensions.

Enterprise Edition: Adds premium Layer 7 services such as Web Content Optimization (WCO), Web Application Firewall (WAF) and FIPS compliance.

Pulse Secure vADC Enterprise Edition Features

Feature	Description
Web Application Firewall	A scalable Layer-7 Web Application Firewall (WAF) to apply business rules to your online traffic, inspect and block attacks such as SQL injection and cross-site scripting (XSS), and help achieve compliance with PCI-DSS and HIPAA and other regulatory demands.
Web Accelerator	Advanced Web Content Optimization (WCO) technologies, to accelerate page load times up to 4x for HTML applications, including Microsoft SharePoint, content management systems and cloud applications. WCO profiles can be customized for each application.
Web Accelerator Express	Baseline content optimization to acclerate the delivery of most web pages, requiring no configuration or tuning.
Support for FIPS 140-2 Level 1	Embedded FIPS 140-2 level 1 cryptographic module per FIPS 140-2 implementation guidance section G.5 guidelines, to support deployments that require FIPS 140-2 level 1 compliance.

Pulse Secure vADC Solutions

Fully integrated or stand-alone

As a pure software solution, the Pulse Secure Virtual Traffic Manager can be installed on any commodity hardware platform, or as a virtual appliance on VMware, Xen, Microsoft Hyper-V, or OracleVM. Alternatively, it is available as ISO or PXE image to install directly onto Intel x86 servers.

You can also deploy it on any supported cloud infrastructure such as Amazon Marketplace, Microsoft Azure, and Rackspace. For maximum deployment flexibility, you can use a simple license key to change the throughput, add-on modules and the feature capability without impacting service.

ADC-as-a-service

The Pulse Secure Services Director can help enterprises and cloud service providers deploy large numbers of ADC services quickly, either within a traditional data center architecture, or in evolving virtual and private cloud platforms. It automates the deployment, licensing and metering of your application delivery services, and gives each application a dedicated ADC instance in a multi-tenanted platform. This translates into extreme elasticity, instant adaptability, and high-density multi-tenancy with the ability to leverage commodity compute platforms for extensible services.

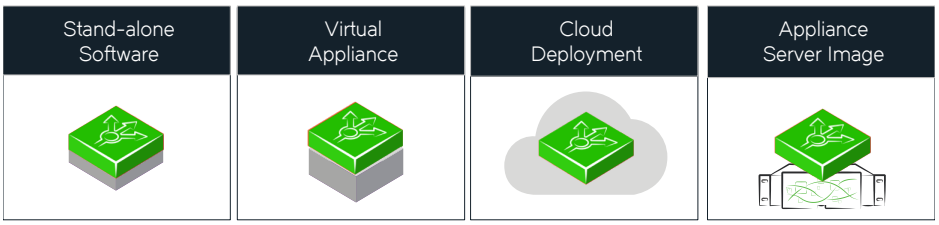

Figure 4. Four ways to deploy Pulse Secure vADC Solutions.

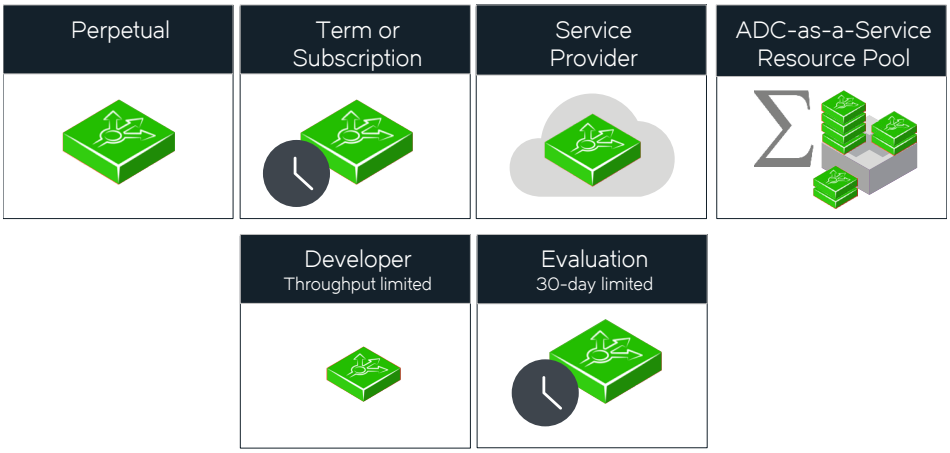

Figure 5. Licensing Options for Pulse Secure vADC.

Download for Free

The Pulse Secure Developer Edition, available either as pure software, or as a virtual appliance, makes the complete ADC technology platform available to every application developer in your organization to develop applications faster, test them in a production-identical environment, and bring them to market more quickly.

Download the Pulse Secure Developer Edition today and test all of the available capabilities in the product family.

Just visit www.pulsesecure.net/vadc.

Maximizing Investments

To help optimize technology investments, Pulse Secure and its partners offer complete solutions that include professional services, technical support, and education. For more information, contact a Pulse Secure sales partner or visit www.pulsesecure.net.

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