

Brocade 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

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

Brocade 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, Brocade vADC is a software-defined Layer 7 ADC with integrated web content optimization (WCO) and web application firewall (WAF) capability designed to deliver application services in the face of these challenges.

Brocade 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 Brocade vADC family enables a more flexible application delivery strategy and provides a common delivery and control platform that can grow with your business.

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

Brocade vADC Product Family

Brocade 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 Layer 7 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,

Brocade vADC software goes further to deliver high performance and availability and accelerating applications, including those based in virtual and cloud platforms.

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

1. Brocade Virtual Traffic Manager
2. Brocade Services Director
3. Brocade 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.

Flexibility	Layer 7 Intelligence	Improved User Experience	Cloud-Readiness	Developer Support
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.	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.	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.	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 Brocade. Software-defined ADCs are designed to work across any public or private cloud.	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 to 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 Brocade Developer Edition.

1. Brocade Virtual Traffic Manager

The Brocade 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.

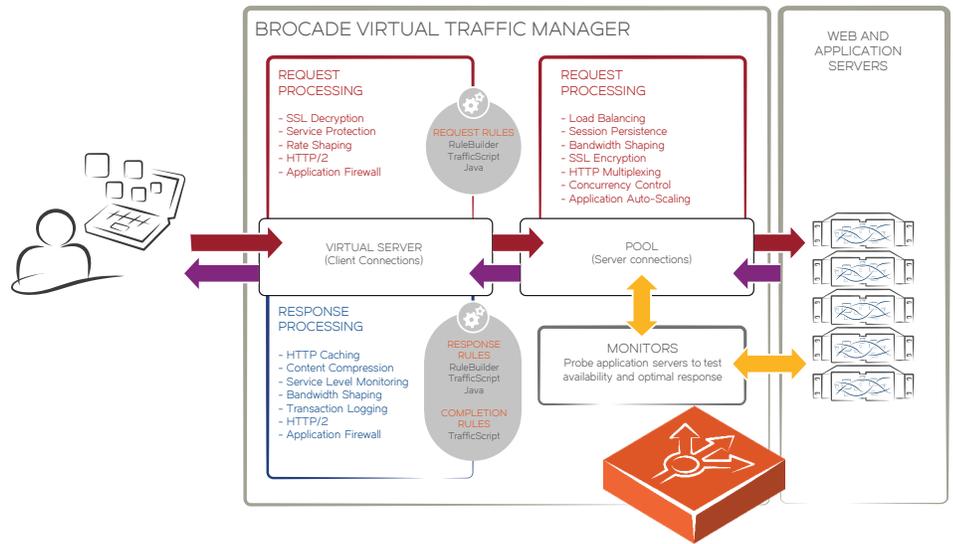


Figure 1: The Brocade Virtual Traffic Manager inspects and processes application traffic, with full payload inspection and streaming.

The Brocade Virtual Traffic Manager delivers:

Improved reliability and scalability

Health and performance monitors balance client requests across the fastest servers. Seamless application scaling protects against compound failures at all levels.

Increased security

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.

Application performance

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.

Integration and control

Implement traffic management policies with Brocade RuleBuilder™ and Brocade TrafficScript™ language, or create Java™ extensions for complex business rules. Integrate the Brocade Virtual Traffic Manager within existing application management and orchestration infrastructure with REST APIs.

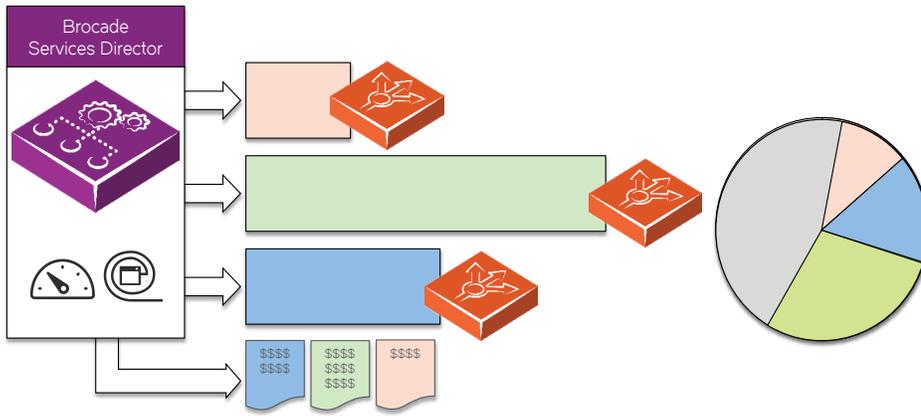


Figure 2: The Brocade Services Director and application delivery-as-a-service.

2. Brocade Services Director

Why pay for ADC capacity you don't need or use? The Brocade 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 Brocade Services Director delivers:

Scalability	Agility	Control	Dramatic Cost Savings
The Brocade 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 Brocade 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 Brocade 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. Brocade Virtual Web Application Firewall

The Brocade 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 Brocade 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.

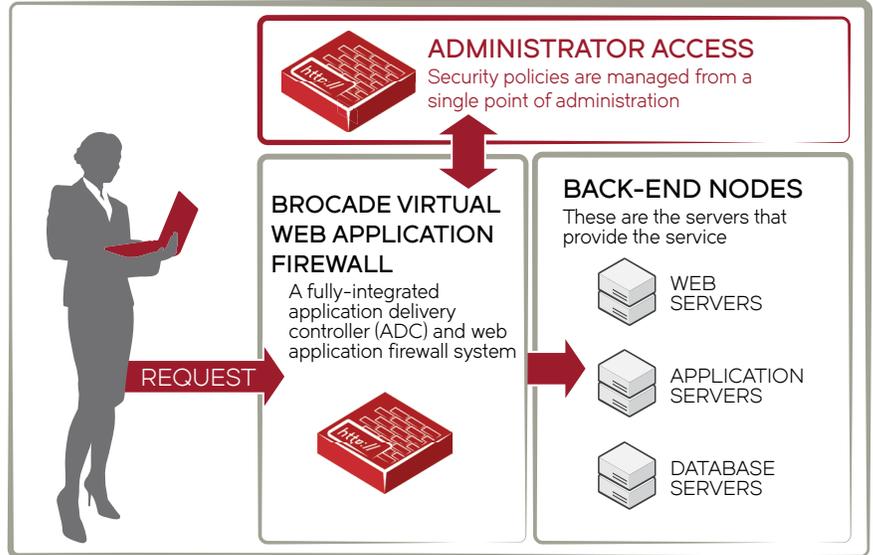


Figure 3: The Brocade Virtual Web Application Firewall is available as an add-on option for the Brocade Virtual Traffic Manager.

Optional Features for Brocade vADC

Web Application Firewall	Add on module, includes 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	Add on module, includes 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	Add on module, includes baseline content optimization to accelerate the delivery of most web pages, requiring no configuration or tuning.
Support for FIPS 140-2 Level 1	Add on module, includes an 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.

Brocade vADC Solutions

Fully integrated or stand-alone

As a pure software solution, the Brocade 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, Joyent, 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 Brocade 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-tenant platform. This translates into extreme elasticity, instant adaptability, and high-density multi-tenancy with the ability to leverage commodity compute platforms for extensible services.

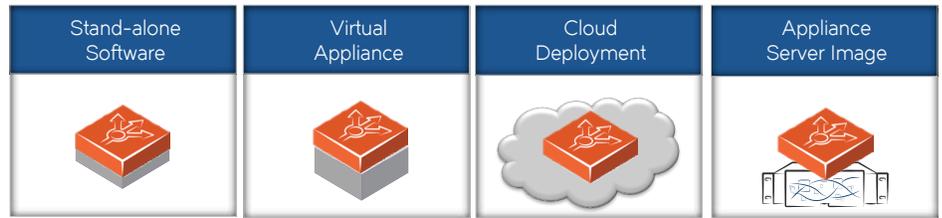


Figure 4: Four ways to deploy Brocade vADC Solutions.

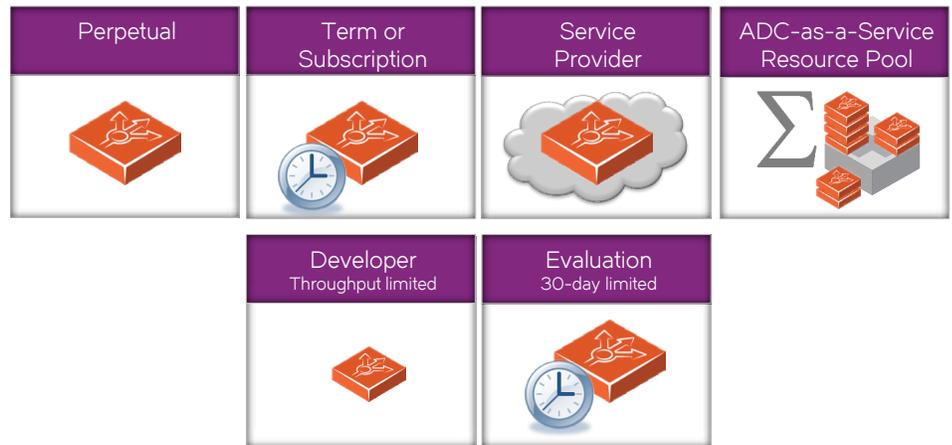


Figure 5: Licensing Options for Brocade vADC.

Download for Free

The Brocade 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 Brocade Developer Edition today and test all of the available capabilities in the product family.

Just visit www.brocade.com/vADC.

Brocade Global Services

Brocade Global Services has the expertise to help organizations build scalable, and efficient cloud infrastructures.

Leveraging 15 years of expertise in storage, networking, and virtualization, Brocade Global Services delivers world-class professional services, technical support, and education services, enabling organizations to maximize their Brocade investments, accelerate new technology deployments, and optimize the performance of networking infrastructures.

Affordable Acquisition Options

Brocade Capital Solutions helps organizations easily address their IT requirements by offering flexible network acquisition and support alternatives. Organizations can select from purchase, lease, Brocade Network Subscription, and Brocade Subscription Plus options to align network acquisition with their unique capital requirements and risk profiles.

To learn more, visit www.Brocade.com/CapitalSolutions.

Maximizing Investments

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

Corporate Headquarters

San Jose, CA USA
T: +1-408-333-8000
info@brocade.com

European Headquarters

Geneva, Switzerland
T: +41-22-799-56-40
emea-info@brocade.com

Asia Pacific Headquarters

Singapore
T: +65-6538-4700
apac-info@brocade.com



© 2015 Brocade Communications Systems, Inc. All Rights Reserved. 12/15 GA-DS-1961-01

ADX, Brocade, Brocade Assurance, the B-wing symbol, DCX, Fabric OS, HyperEdge, ICX, MLX, MyBrocade, OpenScript, The Effortless Network, VCS, VDX, Vplane, and Vyatta are registered trademarks, and Fabric Vision and vADX are trademarks of Brocade Communications Systems, Inc., in the United States and/or in other countries. Other brands, products, or service names mentioned may be trademarks of others.

Notice: This document is for informational purposes only and does not set forth any warranty, expressed or implied, concerning any equipment, equipment features, or service offered or to be offered by Brocade. Brocade reserves the right to make changes to this document at any time, without notice, and assumes no responsibility for its use. This information document describes features that may not be currently available. Contact a Brocade sales office for information on feature and product availability. Export of technical data contained in this document may require an export license from the United States government.

