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Alteon Solution Brochure

Alteon, Radware's next-generation application delivery controller (ADC), is designed from the ground up to ensure predictable application SLA at all times. The only ADC featuring next-generation ADC services, Alteon cost-effectively addresses emerging IT challenges that enterprises and online businesses face daily.

Application SLA Challenge

In today's business landscape, IT is required to deliver availability of services and an optimized user experience for end-users. Ongoing trends such as virtualization, consolidation, and cloud-based platforms make these requirements more complicated as the same resources are shared by different applications, potentially leading to SLA breaches. In addition, application SLAs can be degraded as a result of cyber-attacks that threaten operations, or due to ISP link outage or reduced performance. Additionally, application infrastructure issues that include increased web application complexity and mobility create additional application performance and SLA requirements.

Whether it's an online web application, mission-critical enterprise application such as CRM or ERP, or an organizational portal, end-users expect the same quality of experience. Today's organizations require predictable application performance and availability and must have tools to proactively monitor and manage application SLA.

Did you know that Web response time of the world's largest 100 websites increased 47% in the past two years?

Spring 2014 State of the Union:
Ecommerce Page Speed & Web Performance

Standard ADC: Not Good Enough Anymore

For years, companies have used ADCs to optimize application performance. However, the standard/legacy ADC is based on a best-effort approach and is no longer sufficient. In a standard ADC, all resources are shared between served applications. There is no resource isolation per application or resource reservation mechanism. Adding features or services to one application can degrade the overall ADC performance and impact other application SLA.

In addition, the legacy ADC does not offer tools for monitoring application SLA, but only provides acceleration features that are mainly on the TCP/SSL layers. It does not optimize response time per application, end-user device or browser.

Delivering Complete Application Service Level Assurance with Alteon

Alteon is Radware's next-generation application delivery solution and the industry's only ADC that ensures application SLA at all times. It bundles FastView Web Performance Optimization (WPO), Authentication Gateway, Advanced Denial of Services (ADoS), ITM/bandwidth management as well as maximum SSL and compression capacities.

The following elements enables Alteon to guarantee application SLA:

- Architecturally designed to ensure application SLA by delivering resource reservation and full isolation per application.

- Delivers application SLA monitoring capabilities via a built-in application performance monitoring (APM) module to provide SLA visibility by application, transaction or location.

- Accelerates application response time for higher conversion rates, revenues and productivity by leveraging FastView, the industry's most advanced web performance optimization (WPO) technology.

- Ensures application SLAs even under attack by integrating Radware's Attack Mitigation System (AMS) and signaling attack information upon detection to mitigate it at the perimeter.

Architecturally Designed to Ensure Application SLA

Alteon allows companies to allocate a separate virtual ADC (vADC) instance per application, service or department. Each vADC instance is fully isolated from neighboring instances, where each has independent CPU cores, memory, network stack, management control and operating system versions. As a result, Alteon ensures complete fault isolation and application SLAs for Web applications at all times. In addition, next-generation services can be quickly and safely enabled without impacting the performance of other service applications.

Full Application SLA Visibility with Radware's APM

Radware's Application Performance Monitoring (APM) module provides real-time tracking of application SLAs by measuring actual user transactions, including errors. Embedded in Alteon, Radware's APM is an out-of-the-box solution which doesn't require synthetic transaction scripting or additional installation – thereby reducing deployment time and costs. APM intuitively tracks SLA by location, user, application and transaction in order to expedite root cause analysis and complies with SLA requirements. In addition, it rapidly addresses performance bottlenecks by providing historical reports based on user-defined SLAs. It measures the delay per transaction phase including data center time, network latency and browser-rendering times.

At minimum, application SLA should include the following:

- **Application availability** – the percentage of time the application must be available (e.g. 99.999%)

- **Application performance** – how it performs under various conditions such as (e.g. the amount of transactions per minute vs. response time)

- **End user quality of experience** – application response time as experienced by the end user

- **Error rate** – percentage of error responses the application can deliver before breaching its SLA definition

- **Minimum transaction volume meeting SLA** – minimum percentage of application's transactions which are required to meet SLA

FastView Web Performance Optimization

Radware's FastView, part of Alteon, adds Web Performance Optimization (WPO) capabilities to accelerate application response times up to 40%. FastView acceleration treatments are optimized according to each user, end-user device and browser - with specific optimization for mobile devices. As a result, FastView increases conversion rates and revenues - improving productivity and customer loyalty. It continuously and automatically optimizes Web applications, including new application versions and new application modules. This reduces manual code optimization while enabling the development team to focus on core business competencies.

Alteon integrates common application acceleration features. This includes SSL acceleration, caching, compression and TCP optimization to accelerate application response times, offload server processing and reduce network bandwidth consumption. By offloading processor intensive operations from the servers, Alteon frees the servers' CPUs to handle additional requests, resulting in reduced application server hardware and lower CAPEX. For example, when deploying Alteon with Microsoft SharePoint, the response time of SharePoint servers is accelerated by 350% and servers CPU load is reduced by 40%.

Unique Attack Mitigation Architecture

A key component of Radware's Attack Mitigation Network (AMN), Alteon delivers the best Web application security coverage. It leverages a unique Defense Messaging mechanism that efficiently mitigates attacks by sending attack information to Radware's DefensePipe cloud service and DefensePro, a data center attack mitigator located at the network perimeter.

The integration of advanced Web Application Firewall (WAF) capabilities, such as a unique out-of-path WAF deployment mode and auto-policy generation features, enables risk free implementation. Full instance isolation and resource reservation ensures ADC resources. Even when WAF policies are updated, there's no impact on application availability and performance. This results in secured Web application with guaranteed SLA.

Finally, Alteon features a built-in authentication gateway which provides single sign-on (SSO) capabilities by supporting Radius, Active Directory, LDAP and RSA SecurID and simplifies user experience without compromising application security.

Complete ADC Lifecycle Automation

Operator Toolbox – Designed both ADC experts and non-experts to allow automation of various operational tasks, Operator Toolbox significantly reduces the operational workload (by up to 90%) throughout the ADC services' lifecycle, while minimizing any chance of human errors. Operator Toolbox allows any organization to customize its own automation tasks, per its specific application and work methodologies, designing wizards for different types of users (i.e. network admin or application developers, etc.), or use out-of-the-box wizards, from a full library of certified scripts. Rolling out new and advanced application delivery services can be done through a few clicks of a button, requiring no ADC specific experts in the process. APSolute Vision - Radware's centralized management system, administrators can create different scripts library with different user rights, tailored per the various user groups in the organization (i.e. application admins, application developers, network admin, etc.).

Enterprise-Grade, Cloud-Ready ADC
Full Business Continuity and Disaster Recovery

Alteon ensures uptime and effective disaster recovery (DR) for on premise and cloud-based applications at all times. By leveraging advanced health checks, traffic redirection, persistency and content modifications capabilities, it guarantees transaction completion through real-time identification and bypasses faulty elements along the transaction path. In addition, Radware's global server load balancing (GSLB) service ensures the global availability of geographically dispersed applications. Moreover, disaster recovery also takes place by leveraging a cloud-based load balancing solution such as Alteon for Amazon Web Services (AWS).

Alteon features Active-Active or Active-Passive Device redundancy to reduce service interruptions and guarantee service uptime. It is IPv6 compatible, enabling load balancing of applications over IPv4 or IPv6 networks with no need to modify the applications.

> "With Alteon, we are able to offer a high performance website to our million+ users and seamlessly update our online inventory without affecting performance or quality of experience. It's a great feeling to invest in a solution that actually delivers on its promise".
>
> Geoffrey Smalling, CTO at Wine.com

Advanced Multi-Homing and Enterprise Gateway Solution

The integrated LinkProof module delivers an application-aware, cost-effective solution to guarantee enterprise Web application service levels and optimize enterprise access to cloud and Software-as-a-Service (SaaS) applications. It detects application downtime through full-path application health-monitoring, allowing organizations to pinpoint issues in various networking nodes and enable instant recovery along the entire WAN path.

By simultaneously handling load balancing and optimizing both inbound and outbound traffic of multiple WAN links, the solution serves as an advanced enterprise gateway that optimizes access to cloud applications by applying advanced TCP congestion control and selecting the best ISP link per service. LinkProof also increases employee productivity and reduces costs at branch offices by supporting hybrid WAN architecture and aligning allocated WAN links by priority and accelerating employee access to SaaS applications.

Encrypted Traffic Interception and Inspection

Alteon provides the ability to offload inbound encrypted traffic decryption for inspection by security solutions such as next-generation firewalls, data leakage prevention systems, etc. To complete the solution, Alteon also offers a unique capability for intercepting outbound encrypted traffic as a forward proxy where the Alteon does not own the SSL key and decrypt the content and forward it via clear text to those same security servers. Thanks to its integrated URL classification engine, it can determine whether a specific transaction is considered private (e.g. browsing to a bank account or healthcare site) and avoid intercepting the traffic for inspection – forwarding it to its destination untouched.

Complete Layer 4-7 Feature Set with Extended User-Defined ADC Functionality

Alteon delivers a complete set of Layer 4-7 services to ensure the availability, performance and security of mission-critical applications in on premise and cloud-based data centers. These extend to traffic redirection, content modification, persistency, redundancy, advanced health monitoring, global server load balancing (GSLB) and bandwidth management to optimize the delivery of mission-critical applications.

Radware's AppShape++ technology delivers scripting capabilities, allowing for user-defined customization of the ADC service for specific application flow and scenario. By leveraging the script examples library, customers can use AppShape++ to refine various Layer 4-7 policies including HTTP, HTTPS, TCP, UDP, SSL and more – without application modifications to reduce cost and risk.

Cloud Ecosystems Integration

Based on Radware's Virtual Application Delivery Infrastructure (VADI) strategy, Alteon is available in multiple form factors, including hardware appliance, a virtualized appliance that runs multiple tenants (with ADC-VX hypervisor), a software/virtual appliance (supporting VMware, OpenXen, KVM and Microsoft Hyper-V), a cloud service (on Amazon Web Services, IBM SmartCloud and more) and an SDN service. Across all environments and form factors, the same Alteon image offers featured parity. This allows seamless service mobility, unified application experience and a onetime integration of all environments to the data center management system.

Alteon is a perfect match for organizations adopting cloud computing. For hybrid cloud environments, Alteon can simultaneously run applications across private data centers and an external cloud infrastructure while controlling optimal traffic distribution. With global load balancing, application acceleration and continuous monitoring of quality of experience, Alteon provides consistent application access regardless of private or public cloud data centers. In addition, it allows users to develop applications and related L4-L7 ADC policies in the cloud and seamlessly migrate ADC policies to the private data center.

For organizations building private clouds, Alteon can be offered as a Load Balancing Service (LBaaS) as part of the OpenStack framework (based on the OpenStack Havana load-balancing module). It can also be integrated with VMware's Virtual Cloud Director (vCD) which features native network support (including VLAN, VX-LAN and VMware's vCDNI). Alteon also includes Open API for enhanced programmability and control via vDirect SOAP-based, Open API and REST API for flexible control over the Alteon.
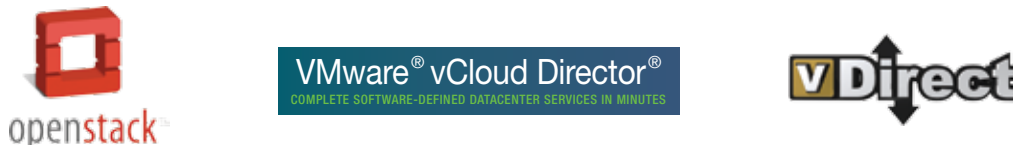
Cost-Effective Scaling Up, In and Out

Alteon is designed to dynamically scale up, in and out on-demand. On-demand scaling allows the addition of more vADC instances throughput capacity and application-aware services such as FastView, APM, GSLB, bandwidth management, DoS protection and more. On-demand scaling cost effectively consolidates several ADC devices into one virtualized platform, thereby reducing data center footprint. Finally, it allows next-generation ADC services to run on general-purpose servers whenever more capacity is required.

Together, it decreases CAPEX (product costs) and OPEX (space, electricity, cooling, service) by reducing the number of physical ADC devices. It provides investment protection (pay for the exact capacity required today), reduces capacity planning risk, improves operational agility and eliminates costly upgrade projects.

Solution Components

Radware's application delivery solution delivers a complete, end-to-end application delivery, performance and security suite that consists of the following components:

- **Alteon** – the only application delivery controller (ADC) on the market which fully ensures application SLA.

- **APM** – a real-user monitoring (RUM) module which monitors Web application SLAs per transaction, location and application.

- **FastView** – a best-in-class Web Performance Optimization (WPO) module which provides the fastest web application response time. FastView can be deployed an integrated ADC service in Alteon or as a cloud service.

- **AppWall** – an advanced Web Application Firewall (WAF) delivering Web application security and compliance. Available as a physical or virtual appliance or as an integrated ADC service in Alteon.

- **LinkProof** - an application-aware, multi-homing and link load balancing module that delivers 24/7 continuous connectivity and service level assurance for corporate and cloud-based applications.

- **Operator Toolbox** - an automation tool, which allows out-of-the box and customized automation for all ADC related lifecycle management tasks.

- **APSolute Vision** – a centralized reporting and management system. Available as a physical or virtual appliance.

- **vDirect** – an SOAP-based, Open API plug-in allowing flexible control over the Alteon.

About Radware

Radware® (NASDAQ: RDWR), is a global leader of application delivery and cyber security solutions for virtual, cloud and software defined data centers. Its award-winning solutions portfolio delivers service level assurance for business-critical applications, while maximizing IT efficiency. Radware's solutions empower more than 10,000 enterprise and carrier customers worldwide to adapt to market challenges quickly, maintain business continuity and achieve maximum productivity while keeping costs down. For more information, please visit www.radware.com.

Radware encourages you to join our community and follow us on: Facebook, Google+, LinkedIn, Radware Blog, SlideShare, Twitter, YouTube, Radware Connect app for iPhone® and our security center DDoSWarriors.com that provides a comprehensive analysis on DDoS attack tools, trends and threats.

Certainty Support

Radware offers technical support for all of its products through the Certainty Support Program. Each level of the Certainty Support Program consists of four elements: phone support, software updates, hardware maintenance, and on-site support. Radware also has dedicated engineering staff that can assist customers on a professional services basis for advanced project deployments.

Learn More

To learn more about how Radware's integrated application delivery & security solutions can enable you to get the most of your business and IT investments, email us at info@radware.com or go to www.radware.com.