Provide your SAP Applications the best response time, tightest security and highest availability with Radware's Certified Solution

The Challenge
SAP applications serve as the mission-critical infrastructure for mainstream business processes of an enterprise, and it is critical to ensure it delivers consistent and high Quality of Experience (QoE), with maximum availability and security, while remaining cost effective. Providing an efficient service becomes an even greater challenge as the number and variety of clients and means of connection increases.

The Solution
Radware's application delivery and security solutions seamlessly integrate into SAP's deployment architecture to improve end-user's QoE with faster response time, highly available and secured SAP application infrastructure, simplified operations, and scalable and cost effective infrastructure, to a wide variety of users and access clients relying on it.

Combined Solution Benefits
- Highly available SAP application infrastructure through Radware's server health monitoring and smart load balancing features
- 2-100x faster response time for optimized QoE and server offloading with FV for SAP joint solution.
- Seamless ADC configuration alignment through integration with SAP message server
- Scalable, cost-effective solution via Radware's "Pay-as-you-grow" approach meeting business growth demand
- Tested and certified joint solution by SAP's certification labs

SAP Partner

Radware's certified solution for SAP applications reduces response time with FastView™ for SAP, ensures high availability, tightens security, simplifies operations and enables cost-effective scalability all while reducing TCO.

SAP, a leading vendor of enterprise software applications, provides a wide range of business applications overseeing the majority of aspects in an enterprise's business. SAP deployments are tightly integrated into organizations' processes, and require a significant amount of time, effort and money in their deployment, assimilation and operation. Being the only single-box solution tested and certified by SAP in all three aspects including, availability, performance and security, Radware's solution allows organizations to enhance the benefits of their SAP applications and enjoy faster application response time, increased SAP infrastructure efficiency, higher availability, tighter application security and simplified operations that lead to higher productivity as well as increased ROI.

SAP Deployments Challenges
SAP applications are designed to provide advanced business functionality to help small to large enterprises efficiently meet their business goals. However, any SAP deployment relies on its server and network infrastructure performance and availability, as well as on the ability to protect it from malicious network and application attacks. In addition, SAP deployment ROI is strongly dependent upon the customer's ability to simplify on-going operations and to cost effectively scale and support additional applications and users while minimizing costs and business disruption.

Challenge #1: Ensuring Business Continuity at All Times
Since SAP applications play a critical role in core business processes, IT managers must ensure SAP application availability, even in cases of unexpected network disruptions or in case of a disaster which may cause complete data center downtime. Unexpected disruptions don't have to originate in the organization's own network – even a simple ISP outage can cause SAP application to be unavailable for remote users and branches.

SAP-certified Solution for Reliability and Availability (RA) Functions.

Radware's Alteon Application Delivery Controller (ADC) was tested and certified by SAP labs to provide maximum availability to SAP applications deployments. It ensures SAP users receive maximum availability for their SAP application, regardless of where the user is located or which data center the user normally uses. Alteon's integrated health monitoring function guarantees user requests are always forwarded to the most available SAP server, automatically bypassing failures.
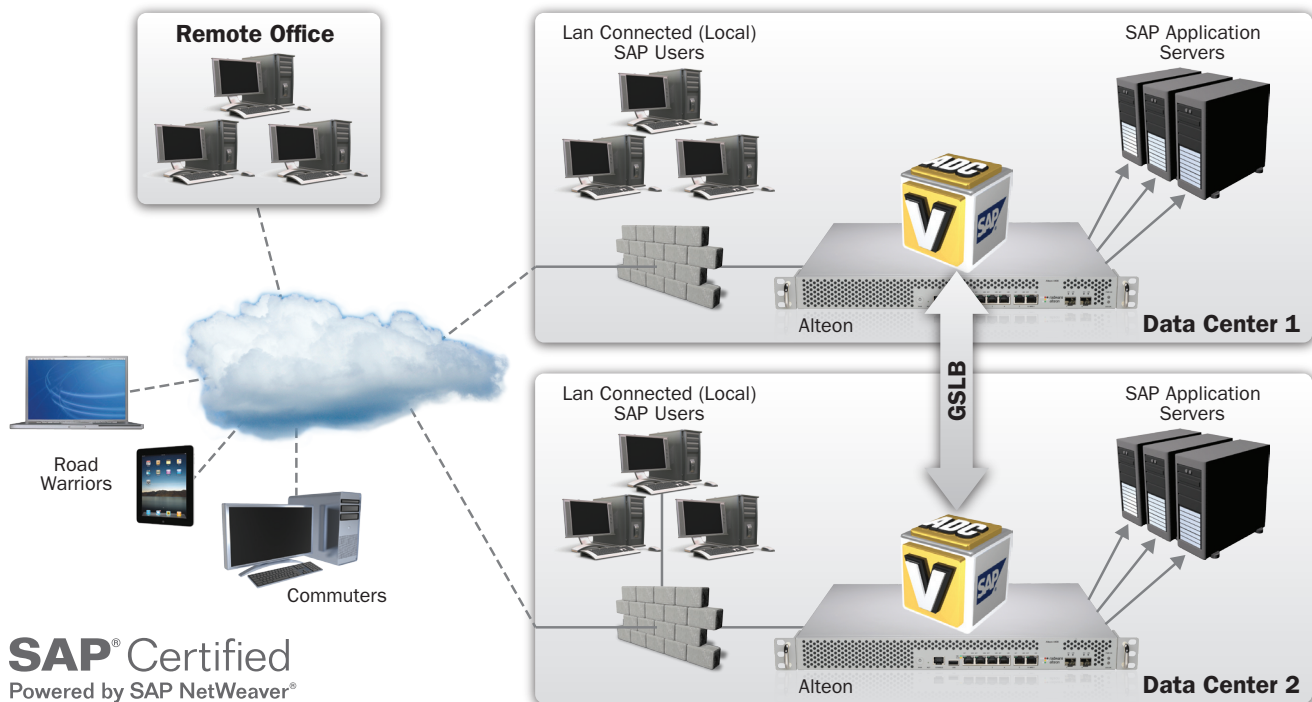

Figure 1: Logical architecture of Radware's solution for SAP applications

In case of a data center disaster, Alteon's global sever load balancing (GSLB) functionality automatically redirects all new user requests to the backup data center while ensuring a transparent, fast disaster recovery path. Users do not need to perform any configuration to their laptop or browser in order to benefit from this functionality.

Even in case of a simple ISP outage, Alteon's Link Optimizer module automatically re-routes all traffic through the remaining ISP links, ensuring continuous service to the remote SAP application users.

Challenge #2: Accelerating SAP Application Performance and Better Utilizing Infrastructure

While a large investment is made to integrate the SAP application into the organization's business processes, in many cases, it is only after the application is fully in production that performance challenges will begin to surface. Such performance issues can occur even if the SAP application was optimally configured and might be the result of network infrastructure congestions, user or transaction rate growth, and poor traffic prioritization vs. other applications sharing the same network infrastructure. Users faced with a slow responding application, even if the cause of the delay is not in the application itself, may be resistant to the integration of the application into their daily business processes, resulting in lower employee productivity.

SAP-certified Solution for Performance Optimization Functions

By leveraging integrated application acceleration features, Alteon provides significant performance improvements to SAP application deployments with no changes to the network topology. Through its various technologies, Alteon offloads the SAP server processing and accelerates the application response time, providing a significant QoE improvement, regardless of whether the user is part of the same LAN network as the SAP data center or is located in a remote branch over a public internet connection. Those capabilities include:

- **SSL acceleration** – faster SAP servers response time by offloading SSL processing from the server's CPU to Alteon
- **Compression** – SAP transactions payload is compressed to reduce the amount of bandwidth consumed and related cost
- **Caching** – improve response time and offload server processing to the end user by caching static information in the Alteon
- **TCP optimization** – to reduce the latency and improve the end user experiences

Organizations can achieve significant improvements in SAP application performance through a straightforward and simple deployment of a single Alteon device in a SAP data center which requires no change to the network or SAP application and provides all of the above functionality.

Furthermore, by offloading CPU intensive tasks from SAP servers to Radware's Alteon application switch, the same SAP application infrastructure is now free to handle more users with no need for additional expenses on more servers, licenses, space, power and cooling.

Challenge #3: Accelerating Performance for Remote Users over WAN Connections

While data center consolidation is picking up pace with the transition of SAP application to Web clients and services; large organizations, which are often geographically dispersed, need to access their SAP services over slower WAN link connections resulting in slower response time for remote and mobile users.

Radware and SAP have partnered together to offer FastView for SAP - the first and only SAP-application-specific acceleration technology integrated into an ADC, based on SAP's Accelerated Application Delivery (AccAD) technology.

The joint SAP-Radware solution extends Radware's FastView™ web performance optimization technology tailoring it specifically for SAP applications. The result is FastView for SAP – the best, unified and optimized solution for SAP applications, deployed in the data center and at the branch offices delivering the following unique advantages:

- 2-100x faster response time - for remote users over slower WAN connections via the only solution which accelerates both SAP GUI and Web traffic
- Fast, simple solution rollout and maintenance through Radware's AppShape technology
- Guaranteed SAP application connectivity through Alteon's smart WAN link load balancing
- Secured connections for remote users - ensuring remote access is only available through an AccAD secured tunnel or through an SSL connection.
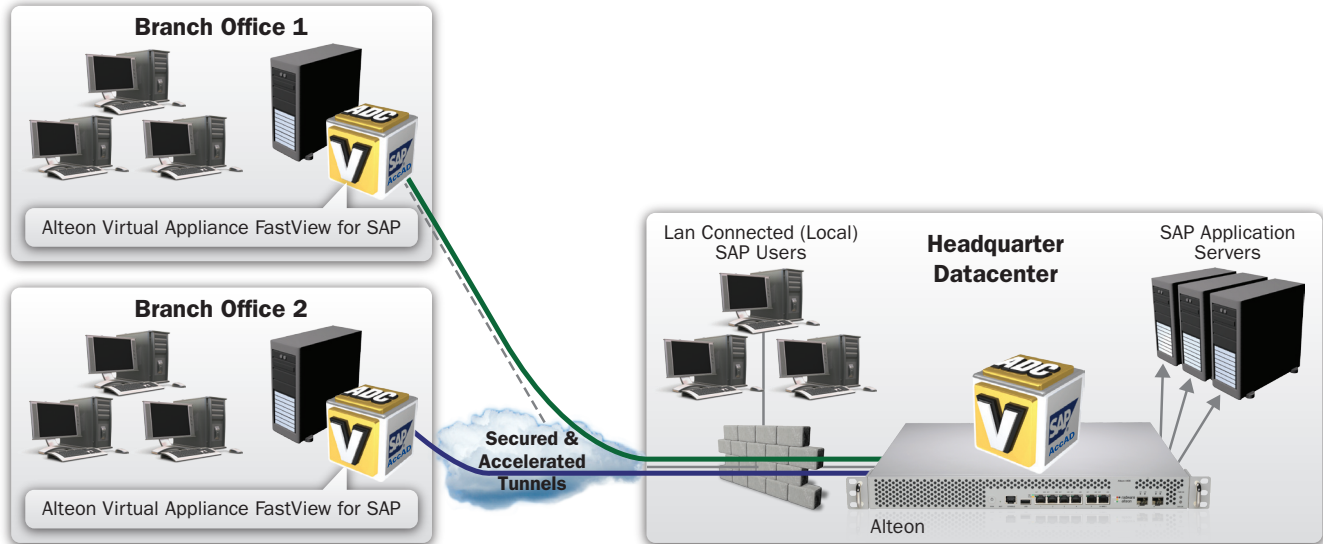
Figure 2: FastView for SAP – Radware & SAP's joint solution for accelerating response time for remote SAP users

Challenge #4: Simplifying Operational Complexity of ADC Services for SAP Applications

3rd party ADC solutions have traditionally been hard to effectively integrate with SAP application infrastructure. The SAP application data flows are dynamic and continuously change as new SAP related processes begin or end, making the maintenance of such solutions time consuming and prone to human errors.

While Radware's solution effectively addresses all of the challenges above, it still requires additional on-going efforts including integration with the SAP servers, adapting to SAP application configuration changes and aligning to the dynamic nature of SAP application including user sessions peaks, load distribution and more.

Radware Alteon enables the simplification of the day-to-day operations related to the SAP applications and the ADC.
Thanks to the integration of Radware's Alteon and Vision with the message server of the SAP application (the ASLR), Vision can automatically retrieve the most current SAP application infrastructure topology and propagate a corresponding ADC configuration to the Alteon ensuring it is fully synced with the most up-to-date SAP application processes and configuration.
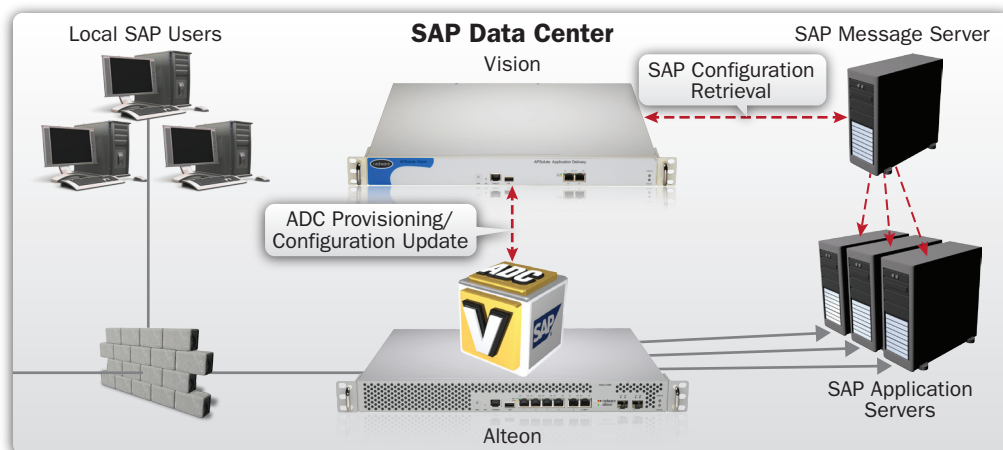

Figure 3: Alteon and Vision integration with SAP Message Server – Solution Topology

Linking the ADC solution with the SAP message server requires a simple 4 parameter configuration in vision – enabling fast and simple ADC service alignment with the most current SAP deployment configuration.

The integration of Radware's ADC solution with the SAP message server accelerates the initial rollout of the ADC service for existing or new SAP applications and also ensures the ADC service is constantly aligned with the dynamic SAP architecture, servers' availability and the SAP instances relevant parameters.

Furthermore, scaling the capacity of the SAP application or adding new services becomes seamless to the ADC service, as it automatically updates its configuration based on the new information retrieved from the message server.

Challenge #5: Enhancing SAP Application Security

In today's business landscape, any organization's application is exposed to various security threats especially if this application provides access to remote users, 3rd party suppliers or end-customers. Today's security attacks use multiple attack vectors such as targeting the organization's network itself, the servers connected to it and the applications running on those servers. In either case, the result is potentially harmful to the business – either by degrading the SAP services' performance, making it completely unavailable or even worse – by accessing business critical data, stealing it and / or corrupting it.

SAP-certified Solution for Security Functions

Radware's network and application security solutions provide complete threat mitigation, security management and reporting tools to enhance best-of-breed, multi-layered security architectures. Furthermore, it inherently enables regulatory compliance such as PCI, HIPAA and others, regulations, through advanced logging and reporting capabilities. By deploying Radware's solution in conjunction with SAP applications, organizations can ensure continuous SAP applications' availability even when under attack by protecting against known and emerging attacks including:

- Network DoS/DDoS flood attacks
- Application misuse attacks such as HTTP page floods, brute force and web application scanning
- Web application threats and vulnerabilities
- Data theft and manipulation of sensitive corporate and customer information
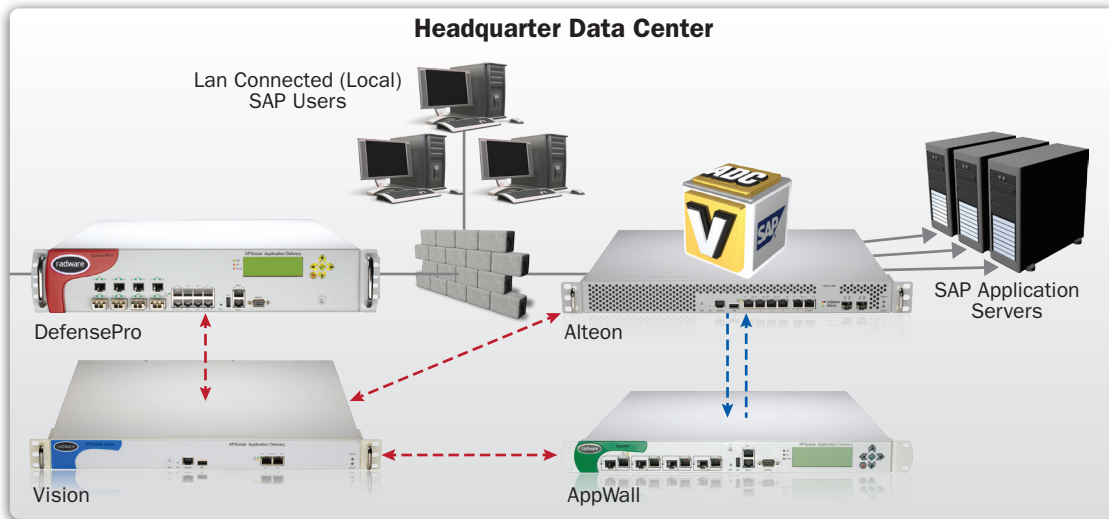- Server intrusions

Figure 4: Radware's Security Solution for SAP

Radware's security solution is comprised of several products, which include:

- **Alteon**: an advanced application delivery controller (ADC), tested and certified by SAP labs to provide out of the box enhanced security to the SAP infrastructure, including application level DDoS attack protection and topology hiding of the SAP application infrastructure.
- **DefensePro®** : a real-time network attack prevention device that protects your application infrastructure against multi vector attacks such as application vulnerability exploitation, malware spread, network anomalies, information theft and other emerging cyber attacks.
- **AppWall**: a Web Application Firewall (WAF) solution which mitigates SAP application security threats and vulnerabilities (including out of the box mitigation for the top 10 OWASP threats). In addition, it prevents data theft and manipulation of sensitive corporate and customer information.
- **Vision** – the management and monitoring solution. Vision incorporates an important tool for automated network and application security correlation reports on session hijacking, non-valid XML structure, CCN leakage, audit and access reports. Vision also provides PCI compliance reports – with drilled down to relevant PCI DSS sections, providing system compliance information

Challenge #6: SAP Deployment's Cost Effective Scalability

SAP deployments span a variety of applications. Most SAP deployments start with a small number of applications. Modules and users gradually increase over time as the SAP deployment evolves. This poses a challenge for IT to determine the most cost effective and seamless scalability of the SAP deployment infrastructure, as the amount of users utilizing the growing number of SAP applications increases, as well as the amount of traffic generated by the increasing number of users and SAP applications.

Radware's Alteon delivers breakthrough performance coupled with on demand throughput and service scalability to the entire Radware portfolio, including Alteon ADC, DefensePro attack mitigation solution and AppWall. Thanks to its on demand, "pay-as-you-grow" approach, no forklift upgrade is required, guaranteeing short-term and long-term savings on CAPEX and OPEX and full investment protection. In an SAP application environment, Radware's OnDemand Switch and the 5 year longevity guarantee Radware provides, enables customers to pay for the exact

capacity currently required for best investment protection. This allows scaling the Alteon's throughput capacity and adding advanced application-aware services or application acceleration services on demand to meet new or changing application and infrastructure needs without compromising performance.

Adding more servers to the SAP application server pool is also seamless with Radware's Alteon application switches. This occurs through a simple Alteon configuration which is seamless to the user. SAP traffic will be balanced between all SAP resources, including newly added servers.

A Joint Solution's Business Benefits Summary

Using Radware's SAP-certified solution, customers can receive the following key business benefits:
- The only certified Radware-SAP joint solution – validating all following benefits
- 2-100x faster response time and a noticeably improved QoE, both for local LAN users and remote users through FastView for SAP technology integrated into Radware's Alteon
- A complete high availability and high-performance business process IT infrastructure
- Reduced maintenance overhead and faster ADC service rollout – through integration of Radware's ADC solution with SAP message server and automatic ADC configuration alignment
- Complete network and application security, enabling SAP users continuous service availability even when under attack
- Seamless scalability – Radware's "pay-as-you-grow" approach enables adding more capacity, with no service interruption or system reconfiguration, eliminating initial overspending and resulting in reduced CAPEX and OPEX

Further information, including test reports and configuration guidelines can be found on both Radware websites:
- Radware-SAP Alliance page

About Radware

Radware, the global leader in integrated application delivery solutions, assures the complete availability, performance and security of business-critical applications for more than 10,000 enterprises and carriers worldwide. With Radware's comprehensive APSolute suite of application front end, access and security products, companies can drive business productivity, improve profitability, and reduce IT operating and infrastructure costs by making their networks "business-smart."

About SAP

SAP is the world's leading provider of business software (*), offering applications and services that enable companies of all sizes in more than 25 industries to become a best-run businesses. With more than 102,500 customers in over 120 countries, the company is listed on several exchanges, including the Frankfurt stock exchange and NYSE, under the symbol "SAP." For more information, visit www.sap.com.

* SAP defines business software as comprising enterprise resource planning, business intelligence, and related applications.