

Maximum Business Agility and IT Efficiency with Radware's vDirect Plug-in

Radware's vDirect is a software-based management orchestration plug-in that enables a high-degree of automation and management of Radware's ADC and security solutions, specifically designed for software defined data centers (SDDC) and private/hybrid cloud environments. It simplifies application delivery and security services lifecycle management via multi-tenant service catalog. vDirect provides the necessary building blocks and management interfaces (REST, SOAP, CLI) to integrate with leading virtualization infrastructures and orchestration systems.

Radware provides a unique automation solution which interoperates with leading cloud and orchestration systems such as OpenStack, Cisco ACI and VMware NSX / vRO for load balancing and security as a service.

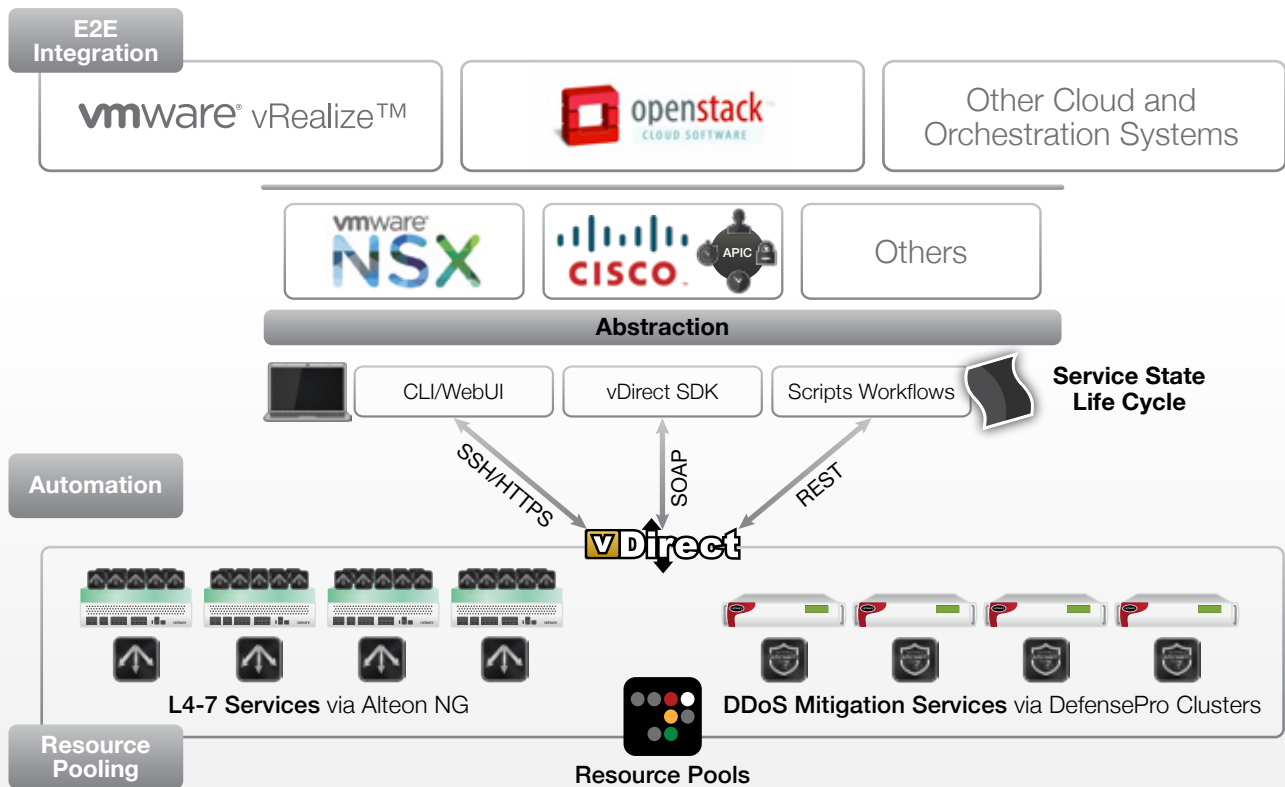


Figure 1 - Automate and Abstract ADC and Security Services with vDirect

Integral Component of Radware's Solution for Software Defined Datacenters (SDDC)

vDirect plug-in is a key component of Radware's solution for SDDC environments architecture. It abstracts complex application delivery and security services into simple templates deployed across a network wide fabric and eliminates manual configuration by automating repetitive service provisioning tasks. The integration of vDirect with leading orchestration systems exposes Radware's ADC and AMS solutions' rich set of services both to the application and network administrators. It significantly reduces provisioning and maintenance time of application delivery and security services.

By transforming standard ADC and security infrastructure into a secured virtual application delivery control plane, Radware vDirect bridges the underlying hardware resources and caters to various application needs in terms of service level assurance, performance predictability and security and delivers maximal agility to the application delivery space. vDirect's extended automation capabilities enables provisioning of the resources and services for infrastructure and application protection as well as bare-metal provisioning of ADC instances per application or into tenant networks and eliminates the need to overprovision ADC resources.

Supporting Leading Virtualization Ecosystems

Radware vDirect plug-in is fully integrated with all industry leading virtualization infrastructures, including VMware vRealize, VMware NSX, Cisco APIC/ACI and OpenStack.

vDirect Integration with Cisco ACI (APIC)

vDirect complements Cisco's Application Policy Infrastructure Controller (APIC) in its vision to be the unifying point of automation and management for the application centric infrastructure fabric. vDirect enriches Cisco APIC service catalog with an additional set of predefined L4-L7 application delivery and security services. It adds an abstraction layer which simplifies the entire configuration life-cycle of complex application delivery and security services, transforming it into simple workflows based on predefined AppShape templates per application. vDirect's integration with Cisco APIC currently supports Radware's Alteon ADC, DefensePro DDoS and AppWall web application firewall.

As a result, vDirect enables all IT administrators (not just ADC and security experts) to efficiently deploy ADC and security services, using physical or virtual ADC appliances, in a fast, secure and highly-available manner using the Cisco APIC controller as the single-pane-of-glass.

vDirect Integration with VMWare NSX

vDirect empowers VMware NSX platform to bring network virtualization and security for the software-defined data center (SDDC), extending its networking capabilities with Layer 4-7 functionality. Radware's vDirect plug-in enables full integration of advanced application delivery services into VMware's application provisioning workflow services. The result is an automated process for new application rollout which includes advanced ADC services. A key advantage of vDirect is the ability of the IT administrator to create and manage L4-L7 services all from within the VMWare orchestration systems. vDirect's integration with VMWare NSX currently supports Radware's Alteon VX and VA ADC.

It offers vendors templates that eliminate repetitive and time-consuming procedures related to ADC services provisioning and configuration lifecycle management.

vDirect Integration with OpenStack Neutron

Load Balancing as a Service (LBaaS)

OpenStack, the open-source cloud operating system, controls and manages network resources and services throughout the data center. As an active developer in the OpenStack community, Radware contributes its code for the OpenStack Neutron networking module, allowing standardization of the API that can be leveraged to benefit the full breadth of Layer 4-7 functionality and resources in a simple fashion. With vDirect's plug-in, Radware's ADC solution not only fully interoperates with Neutron LBaaS, but it adds another layer of abstraction to the OpenStack environment by automating the creation of new virtual ADC instances and provisioning high availability vADC pairs across different machines.

The unique deployment architecture model of the Alteon ADC in an OpenStack environment allows it to bypass the Neutron network gateway (and thus eliminate the bottleneck it creates), while maintaining fault and resource isolation per tenant. The result is a highly efficient ADC service deployment for OpenStack. vDirect's integration supports both LBaaS V1 and LBaaS V2 and the latest OpenStack release (Kilo).

For customers who require more advanced Layer 7 services than those included in the Neutron LBaaS API, vDirect offers a RESTful API with direct access to all Alteon's advanced capabilities.

Fit Any Data Center and Virtual Infrastructure Size

Radware's vDirect plug-in provides automation and management benefits for any customer using virtualization infrastructure. This includes SMBs using basic automatic workflows such as on demand virtual machine (VM) resources allocation through large enterprises and cloud service providers that implement fully automated service provisioning from VMs and storage to ADCs.

Full Business Agility and Resource Elasticity

Radware's vDirect plug-in improves business agility by ensuring the application delivery layer is constantly aligned with the changes in the virtual infrastructure. This includes provisioning/decommissioning a vADC instance as part of end-to-end service creation; or automatically adding/removing computing resources to hosted applications while aligning the vADC configuration with the changes.

Drives IT Efficiency via Workflow Automation

vDirect plug-in integrates Radware's application delivery controller and attack mitigation system (AMS) in the software defined datacenter (SDDC) and the private/hybrid clouds workflow automation, driving greater levels of IT efficiency and extracting more value from Radware's ADC and security solutions.

Facilitates Creation of a Cross Data Center Service Delivery Control Plane

Radware's vDirect plug-in allows Radware's ADC and security solutions to share availability and performance based key performance indicators (KPIs) with the cloud orchestration, thus creating a service delivery control plane that continuously determines the most adequate data center to serve each end-user.

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.

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