Silver Peak

Silver Peak VRX Appliances

DATA CENTER WAN OPTIMIZATION

Silver Peak's VRX appliances are the first and only virtual WAN optimization devices designed for the rigors of data center deployment.

They provide industry leading capacity, delivering 20x more end-to-end throughput and simultaneous user sessions than competing virtual WAN optimization solutions. This makes WAN optimization cost effective when supporting high capacity data center applications.

Silver Peak VRX appliances offer built-in support for all popular Storage Area Network (SAN) and Network Attached Storage (NAS) replication applications, and leverage commonly used hypervisor technology. This makes it easy to deploy WAN optimization within existing data center environments.

By meeting the stringent requirements of today's most demanding data centers, Silver Peak's VX family is indispensable to many strategic IT initiatives, including data replication, data migration, and disaster recovery.

PROTECT MORE DATA; SPEND LESS MONEY

There is a growing trend to backup/replicate more data to offsite locations via the WAN. This involves moving large amounts of information between data centers, which can become difficult as data volumes grow and distances increase between enterprise locations. As a result, enterprises are often forced to limit the amount of data that is being protected during backup and replication processes. In addition, some key disaster recovery initiatives, like SAN replication, have historically been deployed on a dedicated WAN for performance reasons. This compounds the cost of data protection.
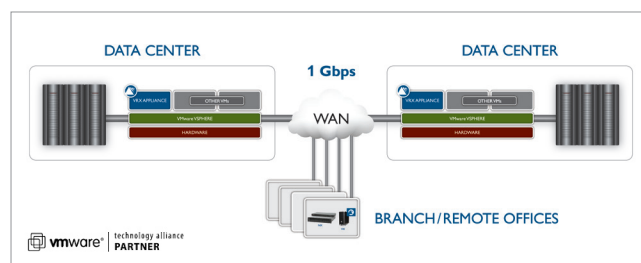
With Silver Peak's VRX appliances, enterprises can move more data across longer distances. In addition, storage environments can be converged with other applications onto a single shared WAN, saving enterprises a significant amount of money in ongoing bandwidth expenditures – over 50% in many instances.

OPTIMIZE MORE OFFICES

As users become more distributed and data are increasingly centralized, it is challenging for IT managers to provide widespread, timely access to critical information. This makes it difficult for enterprises to support traditional "hub and spoke" network deployments.

Silver Peaks' VRX appliances are the perfect solution for branch and remote office "fan in". With the VRX's leading throughput and flow capacity, enterprises can use virtualized WAN optimization appliances to optimize the traffic to hundreds of remote offices without having to deploy a physical appliance. Organizations retain the benefits of virtualization while still getting the performance of a purpose built WAN optimization device.

THE BENEFITS OF VIRTUALIZATION

By running as a virtual machine, VRX appliances leverage all the benefits of server virtualization within the data center, which include:

• **Ease of deployment -** Instantly deploy Silver Peak's WAN optimization technology anywhere in the world.

• **Mobility –** Easily re-locate appliances as needed.

• **Cloud services –** Cost effectively deploy Silver Peak's WAN optimization solution as part of a hosted service.

• **Flexible platform options –** Deploy WAN optimization on any hardware platform of choice, including industry standard x86 servers or other custom platforms.

• **Flexible pricing -** Lower capital expense by purchasing a VRX appliance as a subscription service; Maximize investment protection with pay as you grow upgrades.
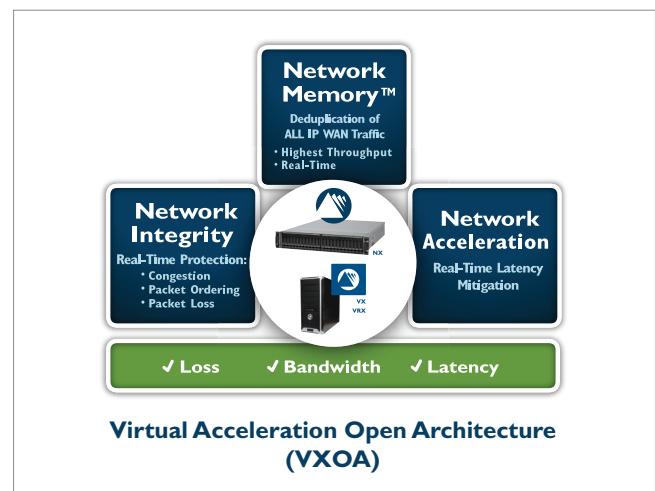
REAL-TIME NETWORK OPTIMIZATION TECHNIQUES

All Silver Peak appliances, virtual or physical, are built on Silver Peak Virtual Acceleration Open Architecture (VXOA), a secure, virtualized WAN optimization framework that delivers appliance-like performance in a software-only platform. VXOA provides three technology components that work in real-time primarily at the network (IP) layer to correct the problems undermining effective throughput.

• **Network Acceleration:** TCP and other protocol acceleration techniques minimize the effects of latency on application performance and significantly improve application response time across the WAN.

• **Network Integrity:** Adaptive Forward Error Correction (FEC) mitigates packet loss by reducing the need for retransmissions when routers are oversubscribed. Packet Order Correction (POC) is a real-time solution for overcoming out-of-order packet delivery across the WAN.

VRX appliances employ a variety of Quality of Service (QoS) and traffic shaping techniques to optimize traffic handling, including advanced queuing, scheduling, and standards-based packet-marking. VRX appliances can honor existing QoS tags or create new policies for granular QoS control.

• **Network Memory™:** Each VRX appliance inspects WAN traffic at the byte level and stores copies of content in high-capacity disk drives. Advanced finger-printing techniques recognize repetitive patterns for local delivery. Network Memory operates at the network layer and supports all IP-based protocols including TCP, UDP and RTP.

Virtual Acceleration Open Architecture (VXOA)

Silver Peak

Model-Specific Specifications

FEATURES	VRX-8
Maximum WAN Capacity NA, NI and NM + encryption enabled	1 Gbps
Certified Connections	256,000
AES Disk Encryption	Real Time
IP Sec Traffic Encryption	Real Time
Redundant Deployment	VRRP or WCCP 1:1, N+1

HARDWARE/SOFTWARE REQUIREMENTS	
CPU	Eight 64-bit x86 virtual processors for a total of 12 GHz of CPU capacity
RAM	14 GB
Disk	250 GB of free contiguous disk space
Network Interfaces	2×1 Gbps network interfaces
Hypervisors	VMware vSphere

VRX-Family Specifications

DEPLOYMENT	
Out-of-Path (Router) Mode	Attached to WAN router out-of path with policy-based-routing redirection, WCCP, and VRRP (on all models)

MANAGEMENT	
CLI	Full-featured CLI available via SSH
GUI	• Web-based Appliance Manager available vis HTTPS (default) or HTTP • Global Management Systems (GMS) provides centralized configuration, monitoring, and management of all Silver Peak appliances
SNMP	SNMPv2c, SNMPv3
Secure Access	SSH and HTTPS
Logging	Syslog with configurable levels. Email alerts
Authentication	Local database, RADIUS, TACACS+
Statistics	Graphing and monitoring, real-time and historical