

Silver Peak VX Appliances

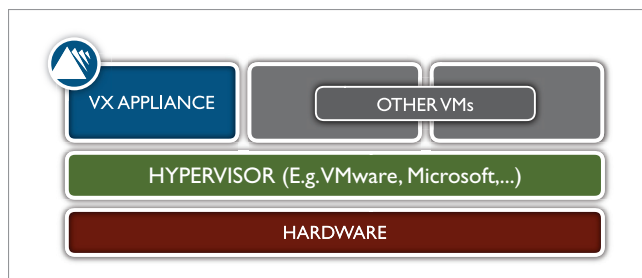


DATA CENTER CLASS WAN OPTIMIZATION

Silver Peak's VX appliances are software versions of the company's award winning NX appliances. They support Silver Peak's complete spectrum of real-time optimization techniques, which optimize Wide Area Network (WAN) performance by overcoming common bandwidth, latency and network quality challenges.

VX appliances leverage all the benefits of server virtualization, which include:

- **Ease of deployment / mobility** – instantly deploy Silver Peak's WAN optimization technology anywhere in the world; Easily re-locate appliances as needed.
- **Reduced IT costs** – consolidate different applications onto common hardware platforms.
- **High availability** – Leverage existing high availability tools inherent in virtual solutions (e.g VMware VMotion).
- **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 VX appliance as a subscription service; upgrade VX licenses as more capacity is needed.



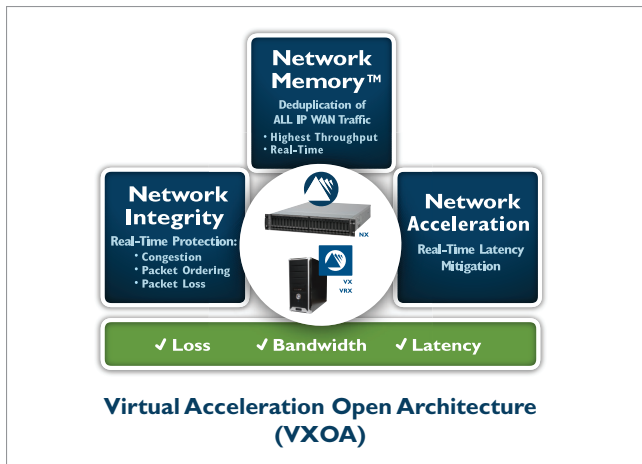
REAL-TIME NETWORK OPTIMIZATION TECHNIQUES

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.

VX 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. VX appliances can honor existing QoS tags or create new policies for granular QoS control.

- **Network Memory™:** Each VX 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.



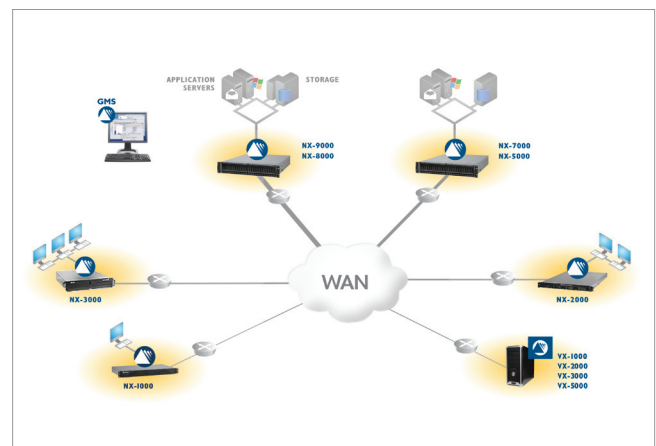
ENTERPRISE-FEATURES

- Silver Peak appliances optimize all IP applications. This includes:
 - Backup and recovery applications, including asynchronous backup/replication tools from EMC, HDS, Dell, NetApp, Symantec, Double-Take, and other leading vendors
 - Traditional TCP applications, such as Windows file sharing, MS Exchange, MS Sharepoint, Lotus Notes/Domino, Siebel, Oracle, and VMware
 - Non TCP applications, such as Veritas Volume Replicator, Aspera, EMC Disk library, and Brocade FCIP
 - Interactive applications, like Virtual Desktop Infrastructures (VDI), Citrix XenApp, Sunray, and Remote Desktop Protocol (RDP)
 - Real-time applications, like VoIP, video conferencing, video streaming and other unified communications.
- Security: All Silver Peak appliances use AES encryption to protect data stored locally. IPSec encryption protects data sent between appliances. Advanced algorithms ensure that data security is achieved with no impact on application performance.

- High Availability Deployment: To maximize uptime, VX appliances can be deployed redundantly in I+I or N+I configurations, with failover and load balancing.
- Easy to Manage: An intuitive Graphical User Interface (GUI) simplifies network monitoring, policy provisioning, and device management. Powerful wizards simplify configuration. A full-featured CLI is available via SSH.

Larger deployments can easily be managed using Silver Peak's Global Management System (GMS). This is a comprehensive platform for deployment, management, and monitoring of a Silver Peak-enabled WAN. In addition to centralizing the administration of Silver Peak appliances, GMS provides detailed visibility into all aspects of application delivery across a distributed enterprise, including application behavior, WAN performance, Quality of Service (QoS) policies, and bandwidth utilization.

- Easy Deployment: Silver Peak's VX appliances are deployed out-of-path using Policy-Based- Routing (PBR) redirection, Web Cache Coordination Protocol (WCCP), or Virtual Router Redundancy Protocol (VRRP). By leveraging existing virtualization management and configuration tools, typical deployment takes less than 10 minutes per appliance.




www.silver-peak.com

Model-Specific Specifications

FEATURES	VX-Xpress**	VX-1000	VX-2000	VX-3000	VX-5000
WAN Capacity (NA, NI and NM + encryption enabled)	4 Mbps	4 Mbps	10 Mbps	20 Mbps	50 Mbps
Certified Connections	8,000	8,000	64,000	64,000	64,000
AES Disk Encryption	Real Time	Real Time	Real Time	Real Time	Real Time
IP Sec Traffic Encryption	Real Time	Real Time	Real Time	Real Time	Real Time
Redundant Deployment	N/A	RRRP or WCCP 1:1, N+1	RRRP or WCCP 1:1, N+1	RRRP or WCCP 1:1, N+1	RRRP or WCCP 1:1, N+1

HARDWARE/SOFTWARE REQUIREMENTS

CPU	Two 64-bit x86 virtual processors for a total of 4 GHz of CPU capacity	Two 64-bit x86 virtual processors for a total of 4 GHz of CPU capacity	Four 64-bit x86 virtual processors for a total of 8 GHz of CPU capacity	Four 64-bit x86 virtual processors for a total of 8 GHz of CPU capacity	Four 64-bit x86 virtual processors for a total of 8 GHz of CPU capacity
RAM	2 GB	4 GB	4 GB	4 GB	7 GB
Disk	100 GB of free contiguous disk space	100 GB of free contiguous disk space	100 GB of free contiguous disk space	100 GB of free contiguous disk space	100 GB of free contiguous disk space
Network Interfaces	2 x 1 Gbps network interfaces	2 x 1 Gbps network interfaces	2 x 1 Gbps network interfaces	2 x 1 Gbps network interfaces	2 x 1 Gbps network interfaces
Hypervisors	VMware vSphere	VMware vSphere or VMware vSphere Hypervisor, Microsoft Hyper-V	VMware vSphere	VMware vSphere	VMware vSphere

VX-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)
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MANAGEMENT

CLI	Full-featured CLI available via SSH
GUI	<ul style="list-style-type: none"> Web-based Appliance Manager available via 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

**VX-Xpress is a free device. Only two can be deployed per enterprise. No external management or maintenance is included.