silver peak™ | Data Sheet

VX Virtual WAN Optimization Software

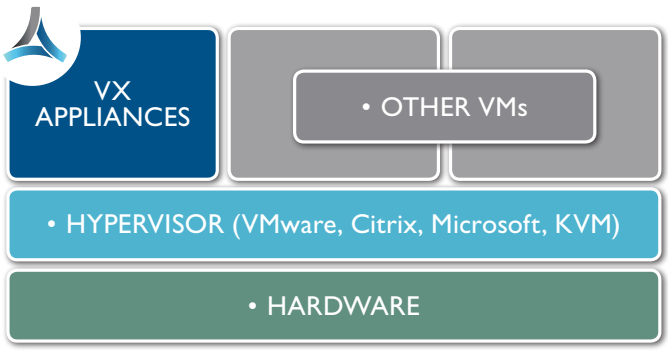
Leading Performance and Virtualization Flexibility

Silver Peak WAN optimization software accelerates data movement between data centers, branch offices and the cloud. It uses real-time optimization techniques to solve network quality, capacity and distance challenges, resulting in fast and reliable access to information anywhere in the world.

Silver Peak software can be deployed as VX virtual appliances, which are virtual machines that run on all major hypervisors. The software can also be deployed as standalone NX hardware appliances. Various virtual and physical models exist for cost effective deployment in any enterprise location, from small branch/remote locations to the largest data centers.

All Silver Peak products support the same functionality. However, by deploying VX software on third-party hardware, such as servers, routers, switches, and storage arrays, Silver Peak virtual appliances also deliver the following benefits:

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



Real-Time Network Optimization Techniques

All Silver Peak appliances use the following real-time optimization techniques to maximize available WAN bandwidth, extend distances, and improve WAN quality:

- **Latency Mitigation:** TCP and other protocol acceleration techniques minimize the effects of latency on application performance and significantly improve application response time across the WAN.
- **Path Conditioning:** 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.

  Silver Peak 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.
- **Data Reduction:** Each Silver Peak 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. Data Reduction 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, 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 EMC VPLEX, Aspera, and 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.

silver peak™ | Data Sheet

VX Virtual WAN Optimization Software

DOWNLOAD NOW

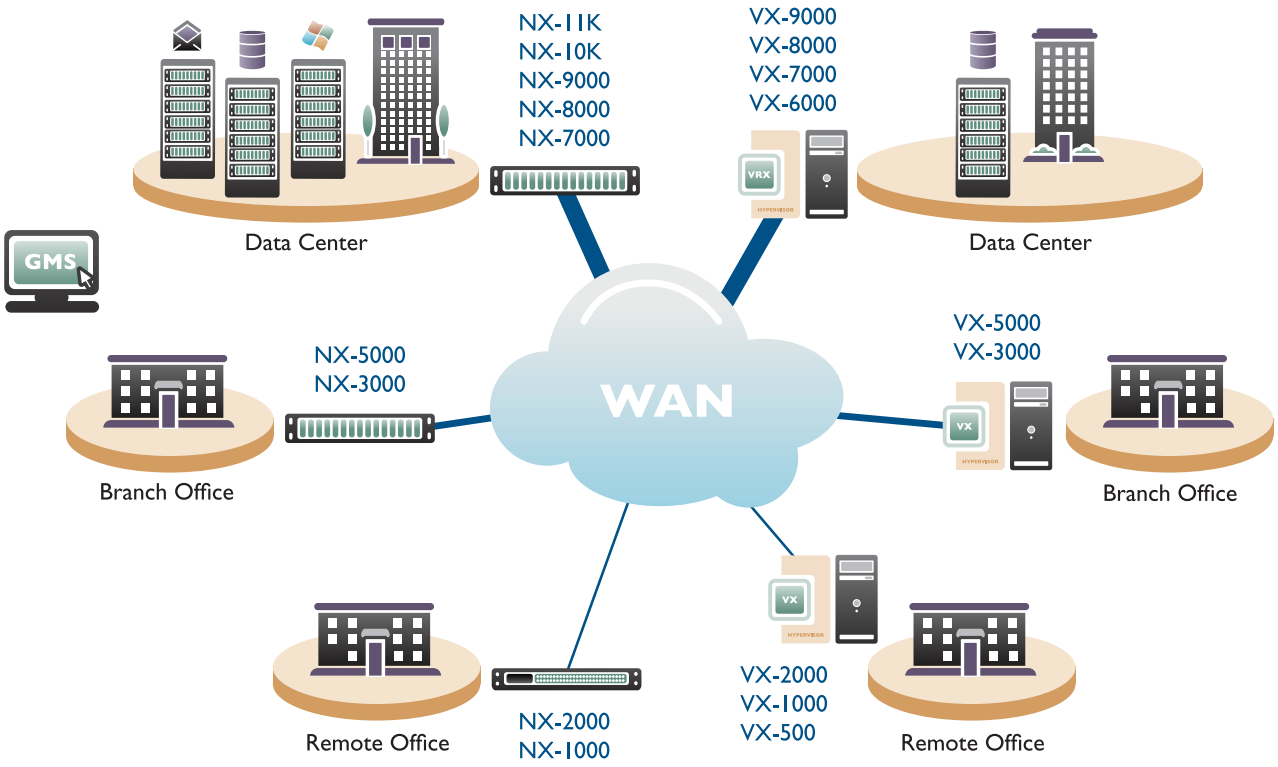
- **Security:** All Silver Peak appliances use AES encryption to protect data stored locally. IPSec encryption protects data sent between appliances. Advanced algorithms ensure that data security is achieved with no impact on application performance.
- **Flexible deployment options:** Silver Peak virtual appliances are typically deployed out of path. Traffic is redirected to these devices by networking equipment (e.g. routers), application servers, or other devices using standard peering protocols or static routing configurations.

  To maximize uptime, VX appliances can be deployed redundantly in 1+1 or N+1 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.

Silver Peak's WAN Optimization Products



silver peak™ | Data Sheet

VX Virtual WAN Optimization Software

Large Locations

Specifications				
	VX-9000	VX-8000	VX-7000	VX-6000
WAN Capacity (NA, NI, & NM + encryption enabled)	1 Gbps	622 Mbps	200 Mbps	100 Mbps
Certified Connections	256,000	256,000	128,000	128,000
Redundant Deployment	VRRP or WCCP 1:1, N+1	VRRP or WCCP 1:1, N+1	VRRP or WCCP 1:1, N+1	VRRP or WCCP 1:1, N+1

Requirements				
CPU	Twenty-four 64-bit x86 processor cores (>2 GHz)	Twenty-four 64-bit x86 processor cores (>2 GHz)	Eight 64-bit x86 processor cores (>2 GHz)	Eight 64-bit x86 processor cores (>2 GHz)
Memory	30 GB RAM	30 GB RAM	14 GB RAM	14 GB RAM
Disk	250 GB of free contiguous disk space	250 GB of free contiguous disk space	250 GB of free contiguous disk space	250 GB of free contiguous disk space
Hypervisors	VMware vSphere, Microsoft Hyper-V, XenServer, KVM	VMware vSphere, Microsoft Hyper-V, XenServer, KVM	VMware vSphere, Microsoft Hyper-V, XenServer, KVM	VMware vSphere, Microsoft Hyper-V, XenServer, KVM

Small / Medium Locations

Specifications					
	VX-5000	VX-3000	VX-2000	VX-1000	VX-500
WAN Capacity (NA, NI, & NM + encryption enabled)	50 Mbps	20 Mbps	10 Mbps	4 Mbps	2 Mbps
Certified Connections	64,000	64,000	64,000	8,000	8,000
Redundant Deployment	VRRP or WCCP 1:1, N+1	VRRP or WCCP 1:1, N+1	VRRP or WCCP 1:1, N+1	VRRP or WCCP 1:1, N+1	VRRP or WCCP 1:1, N+1

Requirements					
CPU	Four 64-bit x86 processor cores (>2 GHz)	Four 64-bit x86 processor cores (>2 GHz)	Four 64-bit x86 processor cores (>2 GHz)	Two 64-bit x86 processor cores (>2 GHz)	Two 64-bit x86 processor cores (>2 GHz)
Memory	7 GB RAM	4 GB RAM	4 GB RAM	4 GB RAM	4 GB RAM
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
Hypervisors	VMware vSphere, Microsoft Hyper-V, XenServer, KVM	VMware vSphere, Microsoft Hyper-V, XenServer, KVM	VMware vSphere, Microsoft Hyper-V, XenServer, KVM	VMware vSphere, Microsoft Hyper-V, XenServer, KVM	VMware vSphere, Microsoft Hyper-V, XenServer, KVM