



www.silver-peak.com

Silver Peak NX Appliances

DATA CENTER CLASS WAN OPTIMIZATION

Silver Peak's NX appliances maximize Wide Area Network (WAN) performance while minimizing WAN costs. The company's unique network approach to WAN optimization delivers unprecedented scalability and flexibility, enabling enterprises to rapidly move large amounts of data across long distances. This makes Silver Peak's WAN optimization solution a strategic enabler for enterprise IT initiatives, including data center consolidation, data migration, disaster recovery, server centralization, and global application / desktop virtualization.


Silver Peak NX appliances were designed from the ground up to support the scalability needs of large enterprises, while simultaneously remaining effective for smaller deployments. When it comes to WAN optimization, Silver Peak delivers performance without compromise:








- **All WAN links.** Silver Peak has the widest range of appliances on the market, scaling from a single Mbps of WAN traffic to several Gbps. At the high end of the spectrum, Silver Peak delivers 3x the capacity of other solutions, ensuring maximum performance on high capacity WAN links.

- **All locations.** Silver Peak offers the best head-end scalability, enabling many offices to communicate to a centralized location. In addition, Silver Peak offers robust management tools that simplify the configuration and management of optimization policies across many remote or branch offices.
- **All applications.** Silver Peak is the only WAN acceleration vendor to perform disk based WAN deduplication, compression, and other optimization techniques across all enterprise traffic (regardless of transport protocol or latency sensitivity). Enterprises turn to Silver Peak to optimize the performance of a variety of business critical applications including data replication, backup, file transfers, email, web and real-time applications like Citrix, VoIP, and video.

NX APPLIANCES

NX appliances lead the industry in performance, scalability, and security. They seamlessly fit into any enterprise network, sitting between network resources and the WAN infrastructure that is used to connect them to remote users. Deployment of NX appliances requires absolutely no client, server, or application reconfiguration.



 NX-1000 4 Mbps WAN 8,000 flows	 NX-3000 20 Mbps WAN 64,000 flows	 NX-9000 1 Gbps WAN 256,000 flows
	 NX-2000 10 Mbps WAN 64,000 flows	 NX-8000 622 Mbps WAN 256,000 flows
		 NX-7000 155 Mbps WAN 128,000 flows
		 NX-5000 50 Mbps WAN 64,000 flows

NX Appliances include:

- AES disk encryption
- In-line and out-of-path deployment
- IPSec
- Redundant power/disk

Silver Peak offers the following NX appliances:

- **NX-1000:** 1-RU appliance that is equipped with 500 GB of local data store, and supports up to 4 Mbps of WAN traffic. The NX-1000's quiet operations and flexible mounting options make it ideal platform for small office / home office (SOHO) environments.
- **NX-2000:** 2-RU appliance that supports 10 Mbps of WAN bandwidth and includes 1 TB of secure local data store in a resilient configuration. The NX-2000 is optimized for remote and branch offices.
- **NX-3000:** 2-RU appliance that supports 20 Mbps of WAN bandwidth and 1 TB of secure local data store in a resilient configuration. The NX-3000 is ideal for mid-size offices.
- **NX-5000:** 2-RU appliance that supports 50 Mbps of WAN bandwidth and 4 TB of secure local data store in a resilient configuration. The NX-5000 brings WAN optimization to medium and large offices.
- **NX-7000:** 2-RU appliance that supports 155 Mbps WAN bandwidth and 5 TB of secure local data store in a resilient configuration. The NX-7000 is intended for deployment in larger facilities, such as corporate data centers.
- **NX-8000:** 2-RU appliance that supports 622 Mbps WAN bandwidth and 5 TB resilient local data store enhanced with 256 GB of Solid State Drive (SSD) storage. The NX-8000 makes application acceleration cost effective in the largest enterprise facilities, such as regional hubs or multinational data centers.
- **NX-9000:** 2-RU appliance that supports 1 Gbps WAN bandwidth and 5 TB resilient local data store enhanced with 256 GB of Solid State Drive (SSD) storage. The NX-9000 is the largest WAN acceleration appliance on the market, providing the best performance on large WAN links.

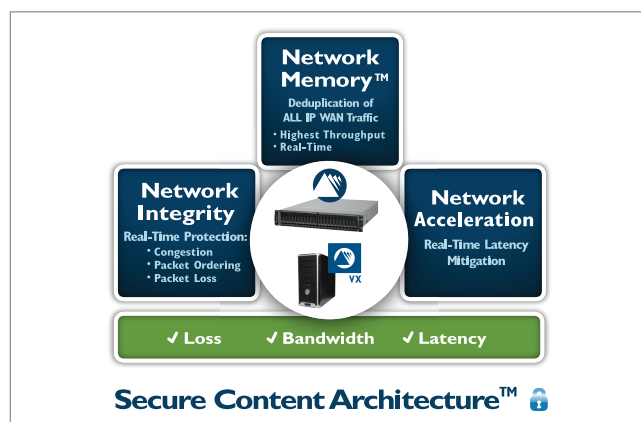
REAL-TIME NETWORK OPTIMIZATION TECHNIQUES

- **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.

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

- **Network Memory™:** Each NX 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.

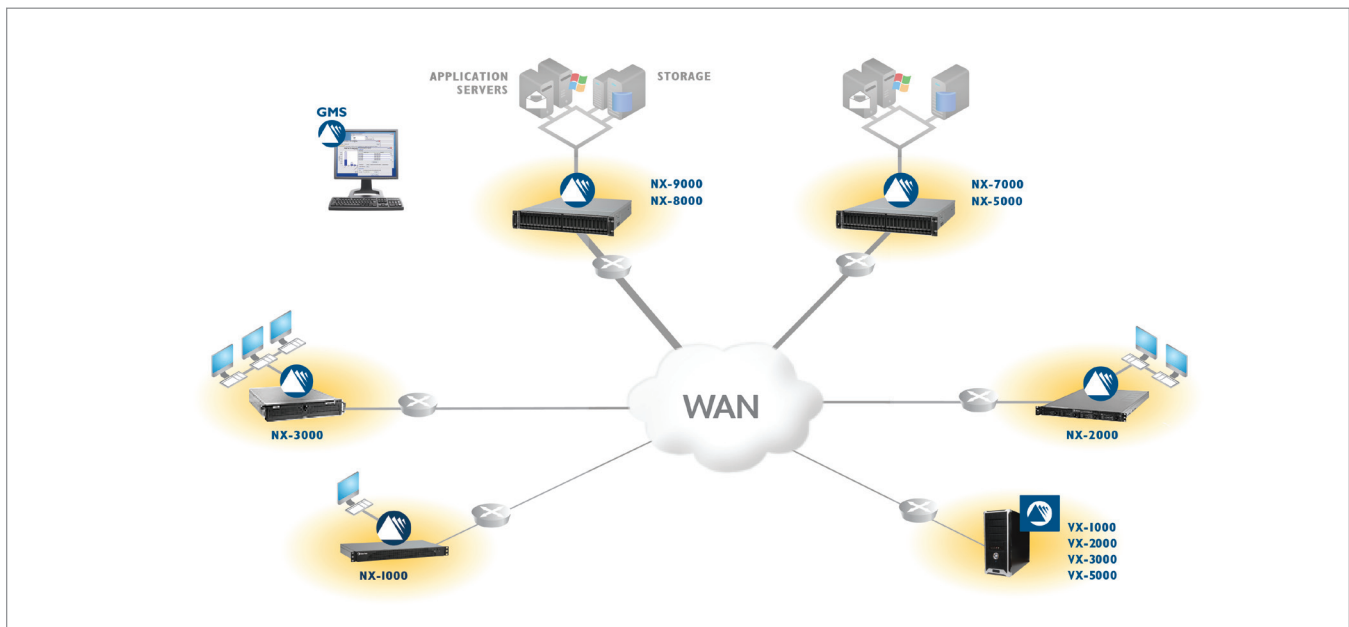
NX appliances also leverage state-of-the-art header and cross-flow payload compression for immediate first pass gains.



Silver Peak's NX Appliances

ENTERPRISE-FEATURES

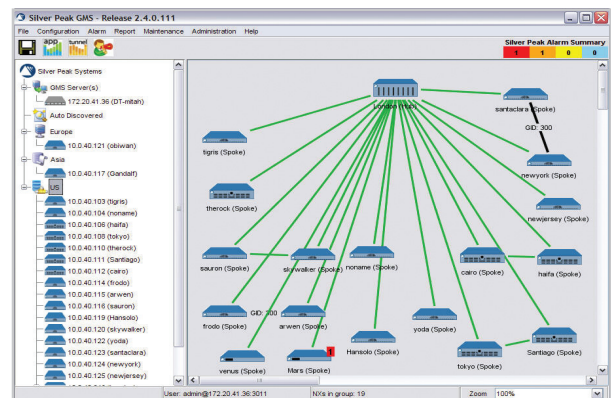
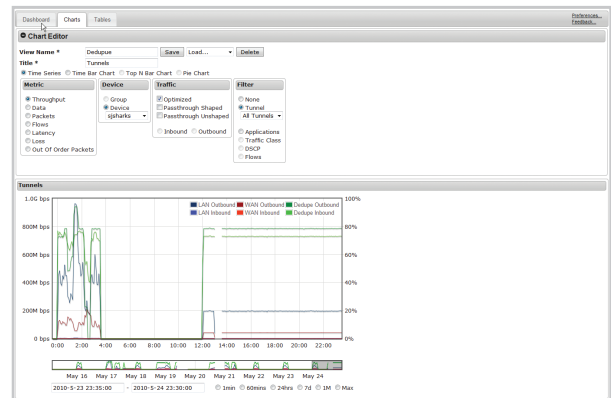
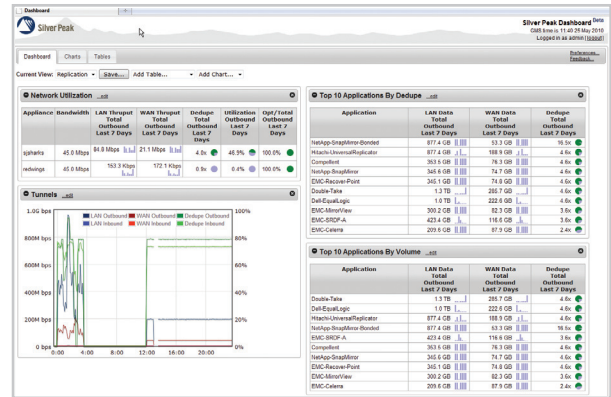
- Silver Peak optimizes all IP applications. This includes:
 - Backup and recovery applications, including asynchronous backup/replication tools from EMC, HDS, Dell, NetApp, Symantec, Double-Take, and other leading vendors
 - Traditional TCP applications, such as Windows file sharing, MS Exchange, MS 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:** Silver Peak uses AES encrypted disk drives to protect data stored on the NX appliance. IPSec encryption protects data sent between appliances. Advanced algorithms ensure that data security is achieved with no impact on application performance.
- **Resilient:** Redundant hardware protects against disk drive and power failures. Fail-to-wire network interfaces mechanically isolate the appliance in the event of hardware, software, or power failures.
- **High Availability Deployment:** To maximize uptime, NX 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 over the DB-9 console port or 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 NX 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 appliances can be deployed in-line between an Ethernet LAN switch and a WAN router, or out-of-path using Policy-Based- Routing (PBR) redirection, Web Cache Coordination Protocol (WCCP), or Virtual Router Redundancy Protocol (VRRP). Typical deployment takes less than 30 minutes per appliance.





Model-Specific Specifications

CAPACITY	NX-1000	NX-2000	NX-3000	NX-5000	NX-7000	NX-8000	NX-9000
WAN Capacity (All Features)	4 Mbps	10 Mbps	20 Mbps	50 Mbps	155 Mbps	622 Mbps	1 Gbps
Certified Connections	8,000	64,000	64,000	64,000	128,000	256,000	256,000
Local Data Store	1 x 500 GB	2 x 500 GB (Resilient)	2 x 500 GB (Resilient)	8 x 500 GB (Resilient)	10 x 500 GB (Resilient)	10 x 500 GB plus 4 x 64 GB SSD (Resilient)	10 x 500 GB plus 4 x 64 GB SSD (Resilient)
SECURITY							
Disk Encryption	128-bit AES	128-bit AES	128-bit AES	128-bit AES	128-bit AES	128-bit AES	128-bit AES
Network Encryption	IPSec (128-bit AES)	IPSec (128-bit AES)	IPSec (128-bit AES)	IPSec (128-bit AES)	IPSec (128-bit AES)	IPSec (128-bit AES)	IPSec (128-bit AES)
CONNECTIVITY							
LAN/WAN Ethernet	4 x 10/100/1000 LAN-WAN	4 x 10/100/1000 LAN-WAN	4 x 10/100/1000 LAN-WAN	4 x 10/100/1000 LAN-WAN	4 x 10/100/1000 LAN-WAN	4 x 10/100/1000 LAN-WAN or 2 x 10 Gbps fiber	4 x 1 Gbps fiber / 2 x 10 Gbps fiber
Management	2 x 10/100/1000; RS-232 serial port	2 x 10/100/1000; RS-232 serial port	2 x 10/100/1000; RS-232 serial port	2 x 10/100/1000; RS-232 serial port	2 x 10/100/1000; RS-232 serial port	2 x 10/100/1000; RS-232 serial port	2 x 10/100/1000; RS-232 serial port
POWER							
Requirement	100-240VAC 47-63Hz 90 W / 307 BTU	100-240VAC 47-63Hz 285 W / 973 BTU	100-240VAC 47-63Hz 305 W / 1041 BTU	100-240VAC 47-63Hz 345 W / 1178 BTU	100-240VAC 47-63Hz 475 W / 1621 BTU	100-240VAC 47-63Hz 520 W / 1775 BTU	100-240VAC 47-63Hz 600 W / 2048 BTU
Power Supplies	Single	1 + 1 Redundant	1 + 1 Redundant	1 + 1 Redundant	1 + 1 Redundant	1 + 1 Redundant	1 + 1 Redundant
DIMENSIONS							
Height	1.8 in. (45 mm) 1RU	3.5 in. (89 mm) 2 RU	3.5 in. (89 mm) 2 RU	3.5 in. (89 mm) 2 RU	3.5 in. (89 mm) 2 RU	3.5 in. (89 mm) 2 RU	3.5 in. (89 mm) 2 RU
Width	17.5 in. (445 mm)	16.9 in. (430 mm)	16.9 in. (430 mm)	16.9 in. (430 mm)	16.9 in. (430 mm)	16.9 in. (430 mm)	16.9 in. (430 mm)
Depth	8.2 in. (209 mm)	26 in. (660 mm)	26 in. (660 mm)	26 in. (660 mm)	26 in. (660 mm)	26 in. (660 mm)	26 in. (660 mm)
WEIGHT							
	8.5 lbs (3.9 kg)	40.5 lbs (18.4 kg)	40.5 lbs (18.4 kg)	43 lbs (19.6 kg)	44 lbs (20 kg)	46.5 lbs (21.2 kg)	47 lbs (21.2 kg)



www.silver-peak.com

NX Family Specifications

DEPLOYMENT

In-Line (Bridge) Mode	In-Line between Ethernet switch and WAN router with fail-to-wire in case of failure (on all models)
Out-of-Path (Router) Mode	Attached to WAN router out-of path with policy-based-routing redirection, WCCP, and VRRP (on all models)
High Availability	1 + 1 or N + 1 Active / Active or Active / Passive

REGULATORY

EMC	FCC Part 15 Class A, EN 55022 Class A, VCCI Class A, En 61000-3-2/3-3, EN 55024
Safety	UL/cUL/60950, EN 60950

ENVIRONMENTAL

Temperature (Operating)	10° C to 40° C (50° F to 104° C)
Temperature (Storage)	-40° C to 65° C (-40° F to 149° F)
Humidity	8% to 90% relative humidity non-condensing

MANAGEMENT

CLI	Full-featured CLI available over DB-9 console port 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 multiple NX 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