



## WAN OPTIMIZATION

# Push Your WAN to Peak Performance

Flexible Silver Peak NX-3500 folds UDP into the acceleration mix

YOU CAN ALWAYS PICK OUT THE IT heroes: They're the ones that keep their users happy — and productive. Sometimes that's hard to do when the users have to access applications and data on the other side of an oversubscribed WAN link. It isn't just a bandwidth issue; a big pipe isn't always a fast pipe. Users need a reduction in latency and protocol chattiness coupled with TCP optimization and intelligent caching. They need a WAN acceleration and optimization solution.

Silver Peak, a new player in the WAN optimization and acceleration game, is shipping the NX family of appliances that not only scale well and provide terrific performance increases but optimize UDP (User Datagram Protocol)-based applications along with TCP-based traffic. The NX-3500 includes a flexible QoS engine and can define ACLs (access control lists) on a per-tunnel basis. To monitor the overall health of the WAN circuit, reporting information (in the form of real-time and historical charts) is available via the browser-based UI.

A 2U appliance, the NX-3500 comes with dual redundant power supplies, fail-to-wire Gigabit WAN ports, and 500GB of local hard drive space. I tested the NX-3500 in my lab for a few weeks and found the appliance

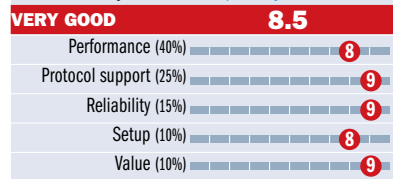


capable of handling a wide range of applications efficiently, although it suffers a bit from lackluster reporting capabilities.

### Birds of a Feather

#### Silver Peak Systems NX-3500

Silver Peak Systems, [silverpeaksystems.com](http://silverpeaksystems.com)



**COST:** Pricing starts at \$9,995; \$17,995 as tested

**PLATFORMS:** Any Ethernet network running TCP and UDP traffic

**BOTTOM LINE:** The NX-3500 provides a wider range of protocol support than most other WAN optimization and acceleration appliances with its ability to optimize UDP-based traffic. The built-in QoS engine helps provide better classification of traffic. Although it doesn't come with the same application-specific optimizations as Riverbed's Steelhead appliance, it delivers nearly the same performance boost. Reporting and monitoring are good if not overwhelming.

I ran the NX-3500 against the same suite of tests I used to evaluate the Riverbed Steelhead 3010 WAN accelerator last November ([infoworld.com/3661](http://infoworld.com/3661)). These tests involved FTP, CIFS (Common Internet File System), and Exchange traffic generated by MJ Net's Macro Scheduler. The only difference in my test bed was the upgrade to the latest Shunra Virtual Enterprise WAN simulation appliance. Overall, Silver Peak's performance was on par with Riverbed's, with most results within a few percentage points, but generally slightly lower. Depending on the traffic type, performance increases ranged from double to nearly 30 times that of nonoptimized traffic.

Setting up and installing the NX-3500 was not overly complex; my test setup was operational in less than 45 minutes, with much of the time spent on tunnel definition. A tunnel is made up of an ACL and the various optimization settings such as compression, application acceleration, traffic classification, and QoS. The ACL allows admins to specify which traffic and applications to optimize, as well as which IP addresses should, or should not, be optimized. To protect data while in flight, the NX-3500 supports AES128 hardware-encrypted IPsec tunnels.

Silver Peak's caching technology,

called Network Memory, stores byte segments on the appliances to help speed up repetitive file transfers. It inspects traffic flows looking for pattern matches down to the byte level. As I saw with Steelhead, if a file was passed through via FTP one time and then sent out as a renamed e-mail attachment the next, the NX-3500 would recognize it and only send the changed data.

The NX-3500 includes CIFS and TCP acceleration, much like Riverbed's Steelhead, but it doesn't offer any application-specific optimization for MAPI, HTTP, or SQL traffic as Riverbed does. Moreover, unlike Steelhead, it does not perform read-ahead of MAPI or SQL requests, but it will still apply its overall TCP optimization to the traffic to help reduce network chatter. Also missing is any type of WAFS (wide area file services). Silver Peak doesn't plan to build WAFS into this platform.

### UDP for You and Me

Silver Peak does include a feature that separates it from Riverbed. The NX-3500 can accelerate and cache bulk-UDP traffic, such as NFS — commonly found in Unix and Linux systems — and Veritas Volume Replicator. Also benefiting from UDP support are real-time voice and video, as well as interactive traffic, such as that of Citrix Presentation Server. UDP traffic is much harder to optimize than TCP because it is usually very sensitive to latency and has no built-in “resiliency” like TCP does. The NX-3500 includes FEC (forward error correction) to help protect sensitive UDP flows by supplying its own error correction to the data streams.

The NX-3500's reporting is solid, providing tunnel and application graphs and charts showing real-time and historical trends. The Application reports display WAN usage for the top 10 applications as they pass through the appliance. I was able to

change the time frame for viewing the reports although I found it limiting. For example, although I could choose a period of “last week,” I could not pick a specific date range. Also, in this release, reports cannot be exported to any other format, such as Excel, PDF, or CSV. Silver Peak did tell me about a global management system coming later this year that will help with collating reports and centrally managing device configurations.

Even though the Silver Peak solution is one of the newest on the market, it performs like a veteran and doesn't leave out any must-have features. The UDP support is new to this space and allows for even more flexibility in defining an overall optimization scheme. The reporting engine provides enough information to be helpful but could use some improvements. Overall, if you are evaluating WAN optimization solutions, here's one more to add to your list.

— Keith Schultz



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