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GET TECHNOLOGY RIGHT



NETWORKING

Stampede Tramples Web Bottlenecks

WebRider accelerator spurs better performance from slow WAN links

IT ADMINISTRATORS always keep an eye out for ways to cheat and pull more performance from existing bandwidth. Network traffic shapers and accelerators have been around for a while, but because they require a device on each side, rolling them out to small remote offices or lone remote users often is not cost effective.

Stampede Technologies' WebRider changes things: It requires a device on only one end of the connection. WebRider is a client-to-server Web traffic accelerator that uses HTTP transaction optimization and cache differencing to reduce the time spent accessing Web-based appli-

cations from a remote computer, especially over slow or congested links.

To speed up enterprise HTTP and HTTPS traffic, Stampede took the core of the TurboStreaming acceleration technology found in its Lotus Notes and Domino product, enhanced it, added some additional TCP optimization features, and stuffed it into a 64-bit, 1U appliance to speed up HTTP and HTTPS traffic through the enterprise. WebRider terminates and accelerates SSL traffic and gives you the tools to manage multiple SSL certificates on the appliance.

I found that WebRider greatly improves performance between client and

Web server even with the most adverse line conditions, but the performance boost is available only for Web traffic. Still, it handles that singular task exceedingly well.

I tested WebRider preinstalled on an IBM eServer powered by a 2.0GHz 64-bit AMD Opteron with 1GB of RAM. You can purchase the software separately to install on your own hardware: WebRider is based on Suse Linux and the install completely takes over the underlying hardware (no dual booting necessary). It can be installed using only one network interface or completely inline using

two interfaces; the acceleration works equally well both ways.

Plug-in A-Go-Go

The key to WebRider's effective acceleration is the optional Win32 browser plug-in. The plug-in installs on your client PC and installs as a proxy host in your browser. It processes all traffic, both inbound and outbound, from the client. If the request is made for a resource defined in the WebRider policy, it forwards it on to the WebRider appliance.

Installing the plug-in automatically configures IE's proxy settings, but for other browsers, proxy configuration must be done manually.

Because the plug-in is a Win32 app, it is limited to the Windows platform, leaving Macintosh and Linux users in the cold. Of course, the plug-in is an optional piece of the WebRider solution; non-Windows users can still access accelerated content, but they'll miss out on the greatest overall performance gain.

One of the WebRider

A Need for Speed WebRider's plug-in gives a bonus boost, especially over VSAT, but non-plug-in users will still see a nice jump in performance.

Link speed	Without WebRider	WebRider, no plug-in (reverse proxy mode)	Web Rider plus plug-in	Performance improvement
Synchronous 64Kbps (100ms latency)	13:25	9:28	5:15	2.5X
VSAT (128Kbps upstream/T1 downstream, 1,500ms latency)	17:01	14:12	3:33	4.8X
VPN over DSL (512Kbps/1.5Mbps, 150ms latency)	2:26	1:57	1:24	1.7X
Unrestricted LAN (1ms to 2ms latency)	1:05	1:02	1:04	1X

Note: Times in minutes: seconds. On unrestricted 100MB LAN, the plug-in overhead actually decreases performance. Last column shows overall improvement from no WebRider to WebRider with plug-in.

WebRider is great for remote offices that need to access Web-based applications over typically poor links.

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plug-in's best benefits is speeding up dynamic content. Because dynamic content, such as a response from a database, is usually marked as "not cacheable," the browser's cache is not able to keep any of the content locally. The WebRider plug-in performs cache differencing on the dynamic content objects and sends only the changed data on subsequent requests. So even though the content is dynamic, if there are any matching "pieces" in the plug-in's cache, that local information is used to reduce the amount of data sent over the wire.

Stampede's Turbo Streaming technology helps improve Web application performance by creating multiple HTTP streams between client and WebRider appliance. Splitting the traffic over multiple TCP connections improves overall performance, especially for larger objects.

WebRider also boasts advanced TCP connection management. On slower links, such as those with high latency or congestion, each TCP and HTTP session handshake can greatly degrade performance; WebRider keeps the TCP sessions open, reducing TCP chattiness and improving performance.

To bump up acceleration



more, WebRider bi-directionally compresses Web content — such as HTTP headers, cookies, and attachments — and even reduces JPEG file image resolution on the fly to further reduce file size and speed up overall performance. This is a nice bonus not found in many other accelerators.

The application policy engine is the acceleration brain. Choices made during policy creation determine how content is cached and what types of traffic optimization are available. WebRider uses the concept of inherited policies for this, allowing for a "top down" approach to policy definition. When multiple policies are managed using the inherited settings feature, a single policy change on a top-level policy makes all lower policies inherit the new setting.

Birds of a Feather

In overall concept, WebRider is a lot like Riverbed's Steelhead 2000 WAN accelerator appliance (infoworld.com/1247).

Both solutions reduce TCP chatter, optimize data transmission, and provide cache differencing. Both products really shine when link quality is at its worst and both substantially reduce the time needed to move data through the enterprise.

Yet there are differences. Steelhead requires an appliance on each end of the circuit, making it harder to justify expensive hardware in a small remote office. However, it works on all TCP traffic, such as FTP and CIFS, not just HTTP and HTTPS.

WebRider, on the other hand, requires just one appliance in the datacenter with the optional browser plug-in deployed at the client side. Its lone drawback is that it only accelerates HTTP and HTTPS traffic, ignoring any possible performance gains in other chatty protocols such as CIFS. The only way to make WebRider available to all TCP protocols is to get the plug-in out of the browser and into the OS. That would take a major change in how Stampede

currently builds the plug-in and a major shift in thinking; I don't think we'll see it any time soon.

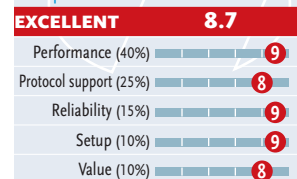
WebRider is great for remote offices that need to access Web-based applications over typically poor links. Cache differencing, the TurboStreaming technology, and reducing network chatter all dramatically improve performance.

I would like to see the plug-in available for platforms other than Windows and support for other TCP protocols so more applications could benefit from the performance boost. For Web-based applications, however, WebRider is an excellent tool for squeezing the most out of your bandwidth allotment.

— Keith Schultz

WebRider

Stampede Technologies
stampede.com



COST: \$35,000 as tested, including license for 100 plug-in clients

BOTTOM LINE: WebRider does a great job of reducing typical TCP and HTTP bottlenecks. TCP optimization, creative cache management, and Stampede's own TurboStreaming technology make client to Web application performance much faster with WebRider than without, especially over slow or poor quality WAN circuits.