

# Product Reviews

## Networks/Servers

### Riverbed Steelhead 100 [PC Pro]

**COMPANY:** [www.riverbed.com](http://www.riverbed.com) **PRICE:** £1,889 exc VAT

**RATING:** ★★★★★

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**Verdict:** Easy to install and ideally designed and priced for deployment in very small branch offices

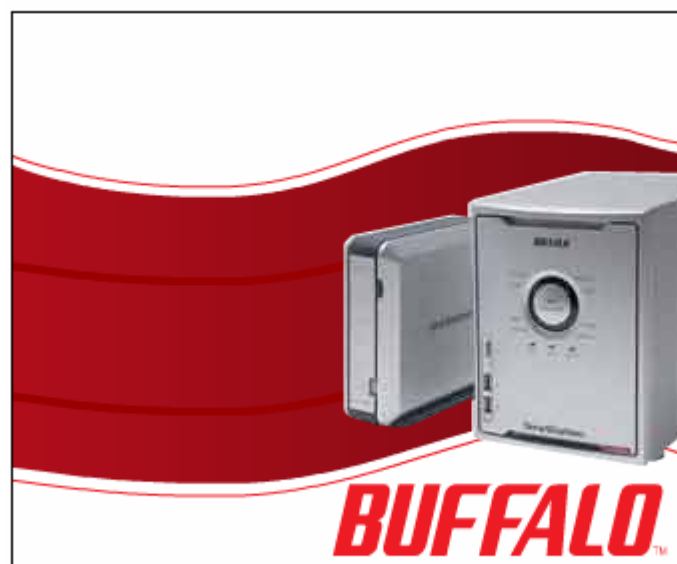


WAN optimisation solutions have traditionally been aimed at larger remote and branch offices. But with the introduction of the Steelhead 100 and 200 appliances, Riverbed now targets much smaller offices as well. Here, we look at the entry-level Steelhead 100, which is aimed at remote offices of up to five people. It supports up to 25 optimised TCP connections and WAN links of up to 1Mb/sec - half the speed of an E1 line.

The 100 runs exactly the same code as the Steelhead 1010, so you get the full benefit of Riverbed's optimisation technology, which includes wide area file services, compression, traffic shaping, QoS, caching and application acceleration. In common with all products currently on the market, it functions as a transparent TCP proxy that intercepts and optimises all TCP traffic.

Every vendor has its own proprietary technology to improve WAN performance, and so it is with Riverbed. Its SDR (scaleable data referencing) stores all WAN traffic on the appliance's hard disk and uses proprietary algorithms to remove repetition. Transaction prediction (TP) comes next and is an application protocol-specific system aimed at reducing round trips over the WAN. These are implemented as optional upgrade modules, with choices ranging from applications such as Windows, MAPI and MS-SQL.

The appliance can be upgraded in firmware to a Steelhead 200, which supports up



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to 20 users and 75 optimised TCP connections. Furthermore, at the time of writing, Riverbed was shortly to release version 3 of its Linux-based OS, which brings in support for optimising NFS traffic. The Steelhead appliances function as bridges, so they can be implemented easily without any additional configuration of systems on either side of the WAN link. Once in place, they default to automatically

optimising all traffic.

For testing, we called up the Network Nightmare WAN simulator ([www.networknightmare.com](http://www.networknightmare.com)) and configured it for a 1Mb/sec WAN link with 40ms latency. With the simulator positioned between two Steelhead 100 appliances, we added a Windows Server 2003 system on one side to act as a file server and installed Kerio's MailServer to provide mail services. On the other side, we connected a Windows XP SP 2 client system and used a 4.8MB PowerPoint presentation to test a variety of scenarios.

With optimisation disabled, copying the file to the server and back again took 49 and 50 seconds respectively. With the Steelheads in the mix and the file cached, the same tasks took less than a second to complete. This was faster than the same tests we carried out on the 1010, showing clearly Riverbed's improvements to CIFS optimisation. Remotely opening the file at the client using PowerPoint took 53 seconds, and saving a modification to the server took 54 seconds, but with the file cached in the appliances these times were reduced to 5 seconds and 7.5 seconds. Mailing the test file to the client as an attachment with no optimisation took nearly a minute. But with optimisation activated and the file cached, this was reduced to only 2.5 seconds.

Despite its compact dimensions, the Steelhead 100 shows clearly the benefits it can deliver to slow WAN links. We found it extremely easy to install, and its comparatively low price tag makes it a top choice for deployment in small remote offices.

By Dave Mitchell