

DATA SHEET: Steelhead® Appliances

Companies of all sizes depend on Riverbed Steelhead appliances to accelerate the performance of applications over wide area networks.

Steelhead appliances deliver the only complete solution for wide-area data services (WDS), overcoming bandwidth and latency problems that stifle application performance.

With Steelhead appliances, data moves faster, applications perform seamlessly, and IT managers can deploy a simpler, more effective network infrastructure. The possibilities are endless.

Leading-Edge Performance for Wide Area Data Services

Riverbed Steelhead appliances have dramatically changed expectations when it comes to application performance over the WAN.

With Steelhead appliances, IT departments can meet the expectations of the most demanding users while still achieving their own strategic objectives. Enterprises can now provide LAN-like performance to users anywhere in the world – while consolidating previously distributed servers and storage, reducing remote backup infrastructure, and even cutting bandwidth expenses.



Key Benefits

Acceleration of all TCP applications. Riverbed® Steelhead appliances deliver dramatic performance increases across the Wide Area Network (WAN) for all TCP applications, some by as much as 100 times. With Steelhead appliances, distributed teams can collaborate more effectively by getting updated files and emails in seconds instead of minutes or hours.

Consolidation of IT infrastructure. Steelhead appliances enable the consolidation of file servers, Exchange servers, storage, and tape backup systems from remote branches into data centers, without giving up the performance users need.

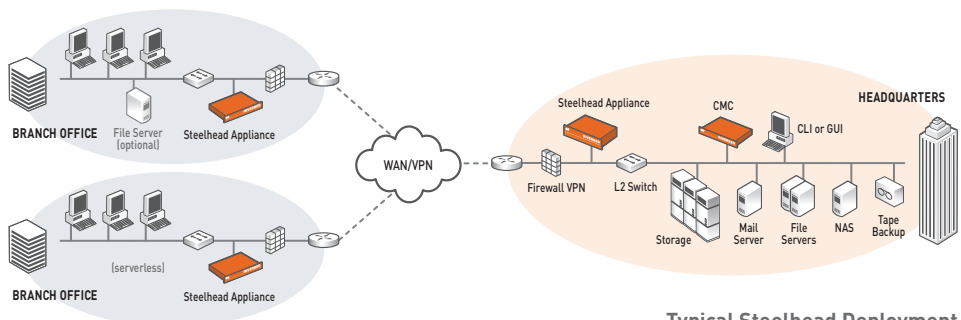
Reduced bandwidth utilization. Steelhead appliances enable massive reductions in bandwidth utilization. Customers typically eliminate 60% to 95% of their current utilization after deploying Steelhead appliances.

Accelerated, simplified backup and replication. With Steelhead appliances, secure backups over the WAN take minutes instead of hours, enabling shorter backup windows and the ability to eliminate remote backup infrastructure such as tape backup equipment and dedicated backup servers.

The Riverbed Optimization System (RiOS)

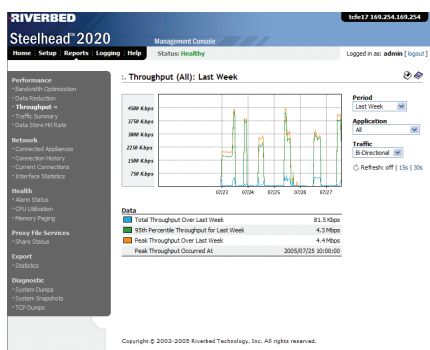
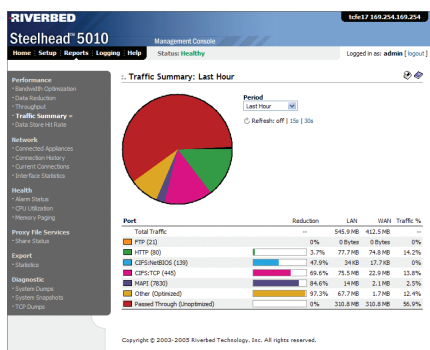
RiOS software powers the Riverbed Steelhead appliance. RiOS combines patent-pending data reduction, TCP optimization, application-level latency optimizations, and remote office file and management functionality. Together, these technologies provide a comprehensive solution for enterprise wide-area data services. RiOS consists of four key components:

- **Data Streamlining** – RiOS Data Streamlining works across all TCP applications to reduce bandwidth consumption by 60% to 95%. Data Streamlining works across Windows file sharing (including MS Office), email (including MS Exchange and Lotus Notes), CAD, ERP, databases, and all other applications that use TCP, to ensure the same data is never sent more than once over the WAN. Data Streamlining also supports rules-based policy administration of optimization classes, and packet marking for QoS and route control.
- **Transport Streamlining** – RiOS Transport Streamlining reduces the number of TCP packets required to transfer data by 65% to 98%. Transport Streamlining overcomes TCP limitations by adapting transmission characteristics such as window scale, loss handling, congestion notification, and more. RiOS Transport Streamlining also enables greater utilization of high bandwidth, high latency connections with High-Speed TCP capabilities.



Typical Steelhead Deployment

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- Application Streamlining** – RiOS Application Streamlining provides additional order-of-magnitude application performance improvements by reducing application protocol chattiness up to 98% and minimizing application overhead. By doing so, RiOS can provide massive throughput increases to applications including Windows file sharing (CIFS), Exchange (MAPI), Web (HTTP), and database (MS-SQL). RiOS also includes important features for maximizing branch office productivity, such as file server capabilities, disconnected operations, and transparent pre-population of popular data.
- Management Streamlining** – RiOS simplifies the deployment and management of application acceleration infrastructure by employing a transparent approach to communications. RiOS enables easy deployment through auto-discovery of peers and auto-interception of traffic, with no reconfiguration of clients, servers, or routers necessary. RiOS simplifies ongoing management by providing simple but powerful Web-based and command line interfaces, reporting, and configuration. RiOS also enables additional management features including many deployment configurations, redundancy, IPsec encryption, RADIUS/TACACS+ authentication, and SNMP traps.

The Right Choice For Your Business

Riverbed Steelhead appliances have been proven to dramatically accelerate application performance in some of the most demanding customer environments. Our customers consist of Fortune 500 companies, Global 100 companies, and even local companies with as few as two offices. Riverbed has deployed thousands of Steelhead appliances across the world for hundreds of customers.

Riverbed's award-winning products have consistently proven themselves as the highest performing accelerators across the broad spectrum of applications that enterprises depend on.

FEATURES

Optimization

- Data Streamlining** – Bandwidth utilization reduced by 60 to 95%
- Transport Streamlining** – Overcomes TCP limitations; Provides virtual window expansion; Enables High-speed TCP
- Application Streamlining** – Overcomes application protocol limitations for CIFS, MAPI, HTTP, and SQL; Enables disconnected operations; Provides transparent pre-population

Network Integration and Scalability

- In-path** – Installs transparently in-line and provides automatic fail-to-wire
- Out-of-path** – "One arm" attachment to routers/switches with direct configuration, WCCP, policy based routing, and L4 switch redirection modes
- Multi-port Interfaces** – 4 Port GigE Card available (optional, all models). Up to twelve Ethernet ports per Steelhead appliance (3010 and 5010) support scalability and redundant WAN router and switch configurations
- Asymmetric Routing** – Connection forwarding for support of incoming and outgoing route asymmetry
- Network Topology** – Full mesh, hub and spoke, and multi-drop topologies supported
- Clustering** – Serial (in-path), Parallel (out-of-path), or Virtual In-Path clustering for massive scalability

Management and Policy

- Configuration** – Web UI, command line interface, and Central Management Console (CMC)
- SNMP** – SNMPv2 support for monitoring and statistics gathering via MIB II and enterprise MIB
- Comprehensive Logging** – Local, CMC, and Syslog support with configurable logging levels
- Marking** – DSCP, port, and VLAN mapping and/or preservation
- Reporting** – Robust performance statistics gathering, export, and graphical reporting
- Policy** – Per-application admission and optimization controls
- Rate Limiting** – Settable WAN bandwidth rate controls

High Availability and Security

- Fail-to-Wire** – Dual watchdog timers ensure no loss in network connectivity in the event of hardware or software failure
- N:1 and 1:1 Redundancy** – Hot-standby redundancy and N:1 clustering for in-path and out-of-path configurations
- Redundant Disk and Power** – Available RAID and dual power supplies protect the system from hard drive or power supply failure
- Authentication** – RADIUS and TACACS+ support for authenticating access
- Encryption** – Configurable IPsec encryption for Steelhead to Steelhead communications
- Dual Image SW Upgrades** – Scheduled over-the-wire software upgrades with dual image, rollback, and scheduled restart/reboot

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