
SteelHead SD

A Complete, Powerful and Streamlined WAN Edge Platform

Riverbed® SteelHead™ SD combines innovative SD-WAN and cloud networking capabilities with the power of industry-leading WAN optimization on a unique WAN Edge software-defined platform.

SteelHead SD allows organizations to take a radically new approach to networking and build enterprise and cloud operations that efficiently deliver the digital performance and agility required to support today's businesses in the cloud era.

SteelHead SD is a powerful, enterprise-class unified SD-WAN and WAN optimization solution with both SD-WAN only and SD-WAN + WAN optimization service options—coupled with opex-friendly and flexible subscription pricing and two times faster SD-WAN performance.

The SD-WAN capability provides centralized, policy-based management and orchestration, zero touch provisioning, and unified connectivity and management spanning the entire distributed network fabric—branch WLAN/LANs,

data centers, hybrid WANs, and clouds. Riverbed SD-WAN and WAN optimization services seamlessly integrate to maintain the identification and classification of applications end-to-end and securely optimize all applications (legacy, SaaS and IaaS, and mobile) across hybrid networks to users everywhere.

SteelHead SD delivers enterprise-grade routing, high availability, support for advanced branch and data center topologies (dual hub, split data center, and direct/alternate path for mesh), and two times faster SD-WAN performance on a lean and unique software-defined WAN Edge platform that has already challenged the complexity of router-based technologies.

For complete performance management within a single console, the solution provides unique integrations within the Riverbed Xirrus Wi-Fi and with third-party cloud and security providers (Amazon Web Services, Microsoft Azure, and Zscaler) to enable operational efficiencies and accelerated success of larger IT initiatives.

The result is a powerful yet complete and streamlined software-defined cloud networking solution that can support efficient enterprise-grade IT transformations while assuring best-in-class performance, agility, and security.

The Business Challenge

Today, IT networking professionals are charged with giving users fast and secure access to their applications and information. And they must do so reliably and efficiently.

IT experts are faced with unprecedented levels of complexity in the network, as well as heightened demands for agility and efficiency from the business. Complexity doesn't just begin and end at the WAN's edge. It's also driven by expanding access to mobile users and smart things (IoT), as well as extending core connectivity to cloud and wireless environments.

IT must be able to meet new and ongoing business needs quickly, cost-effectively, and without compromising security and performance. Unfortunately, conventional

routers have failed at reducing hybrid WAN, cloud or wireless complexity and are expensive in terms of capex and opex, rigid, and error prone.

Conventional MPLS approaches to WAN are outdated and expensive, due to costly bandwidth-rich applications (for example, video and Internet services) and increased latency for SaaS and mobile apps. And multi-vendor approaches to combining WAN optimization and SD-WAN services compromise end-to-end application-centricity as packets flow between WAN optimization and SD-WAN functions.

Key Benefits

Unified Solution

- Single appliance unifying SD-WAN and WAN optimization options
- Flexible deployment/subscriptions: SD-WAN only or SD-WAN + WAN optimization service options with opex-friendly and flexible subscriptions
- Improved enterprise IT with enterprise-class routing, high availability, and support for advanced branch/ data center topologies (dual hub, split data center, underlay only leaf sites and direct/alternate path for mesh)
- Powerful software-defined platforms for branches, large branches, and data centers

Agility

- Rapid cloud migration and adoption (SaaS and IaaS)
- Zero touch provisioning and easy change management
- Increased automation with centralized orchestration and application-defined, business intent-based policy management via SteelConnect Manager (SCM)
- Policy-based management of expanded connectivity options including Xirrus Wi-Fi and gateway-based LTE uplinks (retail stores, rural sites, or mobile retail)

- Management ease—SD-WAN, WAN optimization, Xirrus Wi-Fi, visibility, and security from a single console
- Integrated cloud and security automation and connectivity through controller-to-controller intelligent communication (AWS, Azure, Zscaler, and Palo Alto Networks)
- Easy migration to SD-WAN with in field upgrade for SteelHead and SteadHead-SD Ready
- Future proofing with support for SD-WAN, IoT initiatives, cloud security, and visibility

Network Efficiency/ Resiliency

- Networking efficiency with enterprise class routing
- Resiliency and reliability with high availability (HA 1+1)
- 2 times faster SD-WAN performance (570/770 2x SD-WAN throughput spec)
- Scale with support for multiple data centers and HA 1+1
- Less downtime and faster MTTR
- Reduced bandwidth utilization by up to 99%

- Optimization and application acceleration in every type of cloud environment
- Automatic identification and classification of over 1,300 applications

Operational Efficiency

- Easy, menu-driven design and zero touch deployment for reduced manual errors—no CLI
- Centralized, business-intent-based global policy management
- Reduced operating cost (WAN circuit cost, FTE cost) and reduced Shadow IT
- More resilient, highly available WAN with full, dynamic use of multiple links at branches
- Enhanced security posture—native firewall + integration with third-party CASB/cloud security
- Automated cloud networking and performance with single click cloud deployment

Key Features

Advanced Networking

- Enterprise class routing
 - OSPF single area /multi-area /ABR
 - BGP
 - Static routes
 - ASBR lite
 - VLAN support (LAN side)
 - Topology discovery for LAN subnets
- WAN-side routing—eBGP (path vector) protocol and OSPF—simplifies MPLS complexity, and LAN side routing OSPF and iBGP reduces branch routing config complexity
- Advanced topology support: dual hub, split data center, and direct/alternate path for mesh networks
- Seamless network integration into existing infrastructures with service chaining (e.g., VLANs / macmaps / simplified routing)
- Router coexistence/replacement—coexist with branch CE routers or replace the router with SteelHead native routing, without manual coding for legacy routers (no CLI)
- A design-first approach and centralized, automated policy-based management to eliminate complexity

SD-WAN and Cloud Connectivity

- Cloud infrastructure and cloud security integration—seamless integration with AWS, Azure, and Zscaler
- Auto-VPN and cloud connectivity—auto provisioning site-to-site VPN connects branches securely. Single click connectivity to public and private clouds automates cloud networking, accelerates cloud performance

- Integrated Xirrus connectivity—zero-touch provisioning of Xirrus access points, creation of Wi-Fi networks, and monitoring Wi-Fi
- Gateway-based LTE wireless option for SD-WAN gateways—increase network reach, user productivity, and connection flexibility
- Automated zero-touch provisioning of devices and management—simplifies device control and streamlines the provisioning of remote sites
- Path quality monitoring—provides visibility into the quality of each path in the overlay network including virtual paths, like QoS traffic classes, and reports on exceptions
- Policy-based application mapping—maps applications to the intended paths to make it simple to deploy without complex and tightly coupled router configurations
- Path quality-based path selection—defines the application's path and can make path decisions to maximize application service needs, including link status, packet loss, latency, and jitter
- Dynamic rerouting of applications—ensures no impact to users in the event of a performance issue

Performance and Visibility

- Industry-leading network and app optimization—reduced bandwidth and reduced data redundancy and latency (with data/application/transport streamlining), for ALL apps (mobile, SaaS, and cloud)
- A fully embedded, transparent HTTP(S) proxy for local connection termination and web object caching, including video

- Streamlined management—applications with similar business intent are organized into logical groups for easier deployment, reporting, and troubleshooting of performance issues
- Deep Packet Inspection (DPI)—provides unique visibility into more than 1,300 applications, allowing visibility beyond SSL, and into differentiated individual applications within Microsoft Office 365 or Lync, for example
- Health check and insights—integrated visibility into the health of your Riverbed deployment with Health Check and visibility with insights into networked organizations/sites/apps/users.
- Complete end-to-end network performance (NPM), application performance monitoring (APM) and end-user device monitoring— facilitates problem resolution for optimal application performance

Scalability and Resiliency

- High availability (HA 1+1)
 - Symmetric uplinks
 - Asymmetric uplinks
 - L2 on LAN
 - L3 on LAN
- Scalability
- In field upgrade to SD-WAN from SteelHead

SteelHead SD Product Components

With SteelHead SD, Riverbed introduces a SD-WAN solution with SD-WAN only and SD-WAN + WAN optimization deployment options.

SteelHead SD appliances. (Models 570/770/3070 SD, SD-WAN only, and SD-WAN + WAN optimization options, flexible subscription pricing)

- Delivers two times faster SD-WAN performance (570/770 SD), enterprise-grade routing, high availability, support for advanced branch and data center topologies (dual hub, split data center, and direct/alternate path for mesh), and integrated visibility and security
- Provides secure and integrated (built-in) SD-WAN gateway enabling unified connectivity (point-to-point and full-mesh) and enforcement of global policy across on-premises and cloud-network environments, zero-touch provisioning, automated VPN management and next generation firewall and threat protection capabilities

- SD-WAN + WAN optimization options—Add WAN optimization to SD-WAN capabilities with patented data, transport, and application streamlining. Accelerates a wide variety of critical enterprise apps ranging from email, file sharing, collaborative applications, Intranet portals, web apps, line-of-business apps, as well as ERP, CRM, and database software as well as streaming video and VOD.

SteelConnect Manager. A multi-tenant, “single pane of glass” portal providing centralized, automated management that spans WANs, LANs/WLANs, data centers, and clouds. Offers an intuitive and simplified workflow and business-intent policies for designing, deploying and managing distributed hybrid networks.

Optional Additions

SteelConnect Gateways. Physical and virtual secure WAN gateway for unified connectivity (point-to-point and full-mesh), without optimization.

- SteelConnect SDI-2030 includes:
 - 1 Gbps building block—for when SDI-5030 is oversized
 - 1 Rack Unit (RU)—same FF/dimensions as SDI-5030
 - In path network integration
 - OSPF and BGP-based route attraction
 - Single node, 1:1 HA model
- SteelConnect SDI-5030 cluster includes:
 - 10 Gbps building block
 - Out of path network integration
 - BGP-based route attraction
 - N+K cluster, 3 node minimum

SteelConnect Switches and Access Points. A line of remote LAN switches and Wi-Fi access points that support zero-touch provisioning, automate global enforcement of access control policies, and provide complete visibility into connected users and devices.

SteelHead Interceptor. Amplifies the solution with enterprise scalability, load-balancing intelligence, and high availability to manage and scale network-wide throughput.

For more information on SteelHead SD, please visit: <https://www.riverbed.com/products/steelhead/steelhead-sd-wan.html>.

About Riverbed

Riverbed®, The Digital Performance Company™, enables organizations to maximize digital performance across every aspect of their business, allowing customers to rethink possible. At more than \$1 billion in annual revenue, Riverbed's 30,000+ customers include 98% of the *Fortune* 100 and 100% of the *Forbes* Global 100. Learn more at [riverbed.com](https://www.riverbed.com).

