Next Generation Networking

Conventional approaches to enterprise networking no longer meet the needs of business today. An insatiable demand for WAN capacity and adoption of cloud-based applications has led to new WAN architectures at remote locations, which incorporate internet broadband in combination with or even in place of MPLS connectivity.

The result is a hybrid and more complex network, which is untenable to manage with conventional device-centric and CLI-based means.

Furthermore, modern networks must support heightened requirements for agility, efficiency, scalability, and performance as businesses embark on Digital Transformation strategies to remain competitive and grow.

Next-generation networking based on business-oriented policy and orchestration, zero-touch provisioning, and that seamlessly integrate visibility, routing, optimization, and security into a converged, and unified solution are changing the game—unlocking new opportunities to make the network and enabler, not an impediment, to business objectives and outcomes.

Networking Challenges

Outdated tools and processes

The level of complexity and rate of change in networks is steadily increasing. It's hard to keep up when using legacy tools and processes that require considerable effort and expertise to configure, modify, monitor, and troubleshoot networks. IT may struggle to meet business timelines for network expansion, application deployment, and even routine configuration changes.

Performance problems

Workforce productivity and business velocity depend on the performance of critical applications, which is sometimes subject to network performance. Paths between end users and application servers are longer and more complicated than ever. This is due to greater mobility, growing reliance on cloud-based applications, and use of hybrid networks.

Performance is hindered by added latency when the traffic of cloud applications is backhauled through a central point of access and security. Last-mile network bottlenecks are another cause of degraded application performance experienced by remote and mobile workers.

riverbed®

Figure 1
The level of complexity and rate of change in networks is steadily increasing. It's hard to keep up when using legacy tools and processes designed for the way things were 15-20 years ago.

Security risks

The expanding use of Cloud, internet, and devices is increasing vulnerability to malicious activity. Uneven implementation of security measures across applications and end points—BYOD, guest devices, and IoT—is one source of concern.

Another is the number of sites connected to the internet. Managing security is easiest when internet access is constrained to a single, central point of ingress/egress. However, there is a performance trade-off for cloud-based applications. SaaS vendors recommend using internet breakout points that are close to end users to minimize latency. IT must find ways to extend the security perimeter to every remote site, so branch-direct internet access can be provided.

Disjointed monitoring tools

Different tools are typically used to monitor the performance of LAN, Wi-Fi, WAN, and cloud networks. Visibility gaps and a lack of correlation between monitoring tools can make it hard to isolate the causes of performance problems. Moreover, these deficiencies limit the ability of IT to deliver against service objectives for network and application performance.

Riverbed Solution for Next Generation Networking

Digital transformation is motivating enterprises to rethink many aspects of information technology including networks. Riverbed can help you manage hybrid WANs and SD-LANs as well as securely connect users to public and private clouds. Our solution makes network operations more agile and efficient.

Riverbed performance monitoring tools give you visibility from the end user all the way into the Cloud. They also provide the means to assure end-to-end performance for all networks, applications, and users.

Hybrid WAN management and secure connectivity

Riverbed® SD-WAN gateways route traffic dynamically among multiple links (MPLS, Internet, LTE) based on centrally-defined business policies. Secure connectivity to AWS and Microsoft Azure can be established with a single click. Integration with AWS Direct Connect, Azure ExpressRoute, and Azure Virtual WAN streamlines the configuration of private links.

Our solution is ideal for greenfield or brownfield routing environments. Enterprise-class routing capabilities enable you to replace legacy routing infrastructure at the branch or co-exist with the current routing infrastructure.

Single sign-on with federated ID management simplifies user access to network resources over SD-LAN. Secure on-boarding of BYOD and IoT devices provides uncompromised protection.

Operational agility

Centralized management makes it possible to control thousands of network devices in a distributed enterprise from one graphical user interface. Orchestrated workflows minimize errors and provide consistency.

Riverbed uniquely enables you to write business-aligned policies in natural language—not in ports/IP addresses—with reference to applications, users, location, performance, and security. New and updated policies, including those that govern performance and security, are automatically implemented across the entire network.

Our SD-WAN solution lets you plan, store, and visualize the network before deploying physical or virtual devices. Then bring new sites online with zero-touch provisioning without dispatching skilled IT personnel.

Performance assurance

Riverbed provides several ways to improve network and application performance. You can write policies that give critical applications priority with QoS and path steering. We continuously monitor network health benefits for all applications. And when the performance of a WAN link degrades, traffic is automatically redirected onto an alternate link.

The latency of cloud applications can be greatly reduced by enabling traffic to flow from branch offices directly onto the internet.

This can be accomplished without weakening security. Riverbed SD-WAN gives you options:

- Native perimeter firewall
- Integrated on-site or cloud-based security services

Our industry-leading WAN optimization also mitigates the negative effects of latency and speeds data transfers through network bottlenecks to improve the performance of cloud-based and on-premises applications.

"As edge architectures continue to become more important, Riverbed maintains an advantage in managing user experience at the edge, in combination with its WAN optimization and SD-WAN capabilities."

Gartner Magic Quadrant for Network Performance Monitoring and Diagnostics, February 2019

At the network edge, where end users connect, Riverbed Wi-Fi can prioritize, block, or throttle applications to deliver best performance. The distributed SD-LAN architecture eliminates single points of failure, which increases the resiliency of the network.
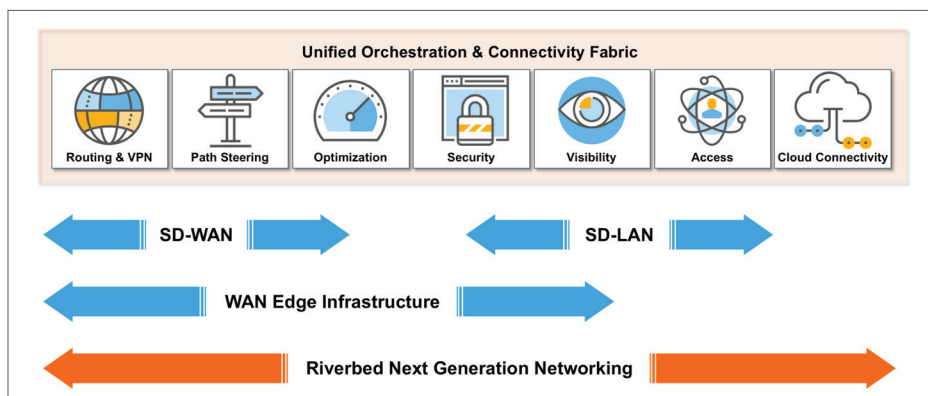

Figure 2
Riverbed Next Generation Networking surpasses conventional networking solutions with a unified orchestration and connectivity fabric that delivers a broad spectrum of integrated capabilities.

Visibility across networks

Riverbed gives IT teams the ability to proactively identify a performance issue, quickly troubleshoot the cause and take corrective action.

Our tools for network performance monitoring show what is happening inside the Cloud and across your enterprise. You can examine WAN, LAN, and Wi-Fi traffic from the standpoint of both packets and flows. We also provide network security analytics for broad threat detection, investigation, and mitigation.

Integrated SD-LAN management and end user experience monitoring enables IT to quickly isolate workforce productivity issues.

Take troubleshooting to the next level with a cross-domain view of performance. Riverbed presents correlated data from network monitoring, application monitoring, and end-user experience monitoring tools in a single pane of glass to speed fault isolation and diagnosis.

What You Can Do

Our solution for next generation networking enables you to easily accomplish things that are difficult with conventional networking.

Easily manage complex networks

Deploy a complete network solution that spans from the Cloud to the edge and greatly simplifies the management of the entire enterprise network including hybrid clouds, SD-WAN and SD-LAN. Add network capacity on demand as your needs change.

Control thousands of devices from a central, cloud-based GUI console. Implement changes quickly and consistently across the network with policy-based management.

Find the right balance between cost, reliability, and performance for a diverse mix of application traffic running over a hybrid-WAN. SD-WAN makes this possible with application aware, policy-based management, and dynamic path selection.

"GHD deployed Riverbed's SD-WAN solution across 50 new offices in just four weeks, and we anticipate saving $1 million annually."

Elizabeth Harper, CIO, GHD
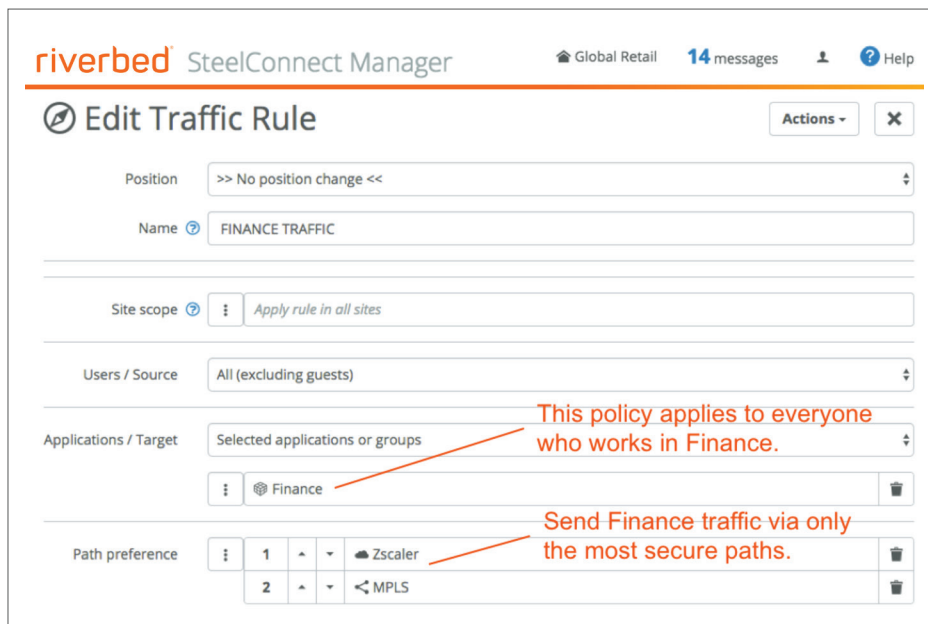
Learn more at riverbed.com/customer-stories/GHD

Figure 3
Policies governing performance and security are easily written in natural language.

Rapidly expand infrastructure

Keep up with changing business needs—more sites, endpoints, and bandwidth. Design network additions using shadow appliances before shipping equipment. Then use centrally-orchestrated workflows to set up new gateways and Wi-Fi access points at remote locations without the need for skilled IT personnel to be onsite.

Automatically apply operational rules aligned with global policies for security and performance management to new devices. Securely connect sites to AWS, Azure, and other enterprise sites with just a few clicks.

Deliver superior application performance

Measure application performance from the end-user perspective in real-time and compare it to internal service objectives.

Simultaneously monitor:

- Networks
- Infrastructure
- Applications
- End-user devices

Then view the correlated data in a single console to isolate the causes of performance problems.

Improve the performance of critical applications by writing policies that give them priority across the entire distributed network using quality-of-service and dynamic path steering. Overcome bandwidth constraints and latency with WAN optimization that streamlines data and protocols.

"With Riverbed underpinning Office 365 and SharePoint, we enjoy premium performance, total reliability and the ability to collaborate with confidence."

Elize Neethling
Head of Group Information Security and Technology, Tradebridge
Learn more at riverbed.com/customer-stories/tradebridge

Enhance security on networks

Detect and investigate threats that bypass typical preventative measures as well as those that originate inside the network or Cloud. Integrate Wi-Fi security with federated identification management that follows users. Implement security policies with consistency across the network via centralized control, policy-based management, and automation. Extend the security perimeter to remote sites that have internet access using a native perimeter firewall in an SD-WAN gateway, an integrated security stack that is on-site, or integrated cloud-based security services.

Get Started Now

Riverbed can help you rethink your network to deliver the agility, scalability, and performance needed to support digital transformation and keep pace with changing business needs. To learn more, visit riverbed.com/next-gen-networking.