riverbed

Cloud-Ready Edge

A breakthrough solution to transform edge IT for the cloud-first era

The cloud promises the efficiency and agility needed in a digital age, but also comes with new levels of IT complexity that, if not properly addressed, can compromise business objectives. This complexity intensifies at the enterprise edge: the branch office and remote office (ROBO) locations that are critical to corporate success, but often hinder cloud and digital strategies due to sprawl, aging infrastructure, inefficient operations, unreliable app performance, and unprotected data.

What enterprises need is a cloud strategy without tradeoffs. The solution is Riverbed Cloud-Ready Edge, a holistic, software-defined approach that empowers IT to quickly deploy minimal infrastructure at every edge location, enabling easy management and maximum agility, security, and performance for any distributed business.

The Business Challenge

In today's digital economy, the edge is the business. Edge locations are where customers are served, transactions are processed, missions are completed, and revenue is recognized. The edge covers a broad spectrum of ROBO locations—retail stores, regional offices, manufacturing sites, warehouses, call centers, military operations, and any of the other dozens of site types that drive business activities.

But while the edge is crucial for the business, it is often an afterthought for IT, which reserves the bulk of innovation and focus for the data center. So as enterprises embrace business transformation, a common theme has emerged: traditional approaches to edge IT hinder cloud and digital initiatives.

Traditional Approaches to Edge IT Hinder Cloud and Digital Initiatives with:

Lack of continuity and agility

Outdated infrastructure and management tools prevent change from happening quickly and also make it difficult to recover from business-impacting issues.

Corporate vulnerability and risk

The effective use of cloud and data can create competitive advantage in the digital age, but improper management of both lead to increased security concerns.

Productivity loss and downtime

Employees and customers depend on applications to conduct business, but cloud adoption often introduces unanticipated performance and availability issues.

Compounding these business issues are the varying infrastructure, application, and data requirements of ROBOs. Depending on both business and technical needs, different locations pose different IT challenges. Generally speaking, ROBOs fall into one of the following three categories:

Three ROBO Categories

	Internet-Only ROBOs	Hybrid ROBOs	Stateful ROBOs
ROBO Type	Use only public networks to access SaaS apps and store data in the cloud.	Tap into the public cloud, SaaS, and the corporate data center for apps and data, requiring a hybrid network of Internet, MPLS, and potentially other modes of transport.	Produce a significant amount of intellectual property and typically require servers, storage, and data protection or backup equipment to support the needs of employees and customers who need fast apps and instant access to data.
IT Pain Points	• Internet breakouts often force IT to backhaul traffic to a data center, which adds latency and impacts application performance; however, going direct-to-net introduces security concerns • Enabling cloud connectivity is time-consuming, as commonly used VPNs involve complex setups and negotiating policies between IaaS providers and all sites • Lost visibility into cloud apps impacts performance and user experience	• Router-based networks are complex, error prone, and can't keep up with business requirements, as it can take weeks to make manual configuration changes • Growing bandwidth demands force IT to balance costs with performance, and ensuring apps take the optimal network path is nearly impossible using legacy management tools • Added latency with cloud and data center-hosted apps often causes unanticipated performance issues	• Local storage, compute, and backup infrastructure is costly and inefficient to provision and maintain on a site-by-site basis • Site and data backup or recovery takes too long—and sometimes isn't completed at all—when using fragmented methods and outdated technologies • Storing increased data volumes in ROBOs puts businesses at greater risk for loss, but centralizing data often isn't an option due to constrained networks or needs for local access

Incremental IT pain points experienced at each ROBO type. Overall IT complexity increases as you move from Internet-only to hybrid to stateful.

Rounding out the issues is a resource scarcity at ROBO locations. There is a fair amount of heavy-lifting involved with maintaining islands of multi-vendor infrastructure, keeping apps running, and protecting corporate data on a site-by-site basis. When done by small or remote IT teams or even non-technical staff, the approach is massively inefficient and costly.

If edge operations are to keep pace in the era of cloud and digital transformation, the underlying IT infrastructure needs its own transformation. But this cannot be a piecemeal approach that treats the aforementioned challenges as discrete problems solved by disparate solutions within IT silos. Only a complete overhaul of edge IT infrastructure and operations will resolve these issues.

91% of enterprises report that use of cloud has increased IT complexity at ROBO sites.

ROBO Challenges and Considerations, ESG, December 2016

Solution

In a digital age requiring constant innovation, businesses need a cloud strategy without compromise or complexity. Enter Riverbed Cloud-Ready Edge: a fully integrated, software-defined, and easily extensible solution built on the Riverbed Application Performance Platform.

Riverbed Cloud-Ready Edge puts IT back in control by eliminating complex, legacy approaches to edge networking, compute, and storage and delivers a unique set of capabilities to transform edge IT for the cloud-first era:

- SD-WAN for simplifying hybrid network design, management, and cloud connectivity

- WAN optimization to accelerate cloud, SaaS, and on-premises apps

- Edge data services to protect data and simplify and accelerate IT operations

- An extensible services platform for tighter integration and easier management of critical third-party services

- Performance monitoring for apps, networks, and user experience, on and off the cloud

Understanding each enterprise may have 10s, 100s, 1000s, or more edge locations with varying IT needs, Riverbed Cloud-Ready Edge allows you to select from these capabilities on a site-by-site basis.

"With Riverbed, we now have the ability to very quickly build and deploy a global network in a matter of hours, which would have taken months of planning and deployment before."

Rob Gillan,
CTO, SimplePay

What Can You Do with a Cloud-Ready Edge?

- Deliver lightning-fast provisioning of new services, applications, networks—even entire new sites

- Simplify the management of locations or applications in groups instead of individually

- Centralize and protect 100% of corporate data while still ensuring it's quickly accessible anywhere in the world

- Recover from unplanned outages in minutes instead of weeks—with no loss of data

- Ensure superior app performance, no matter what type of application or device, or how distant the user

"Previously, network costs would have made some new applications unacceptable. Today, we have bandwidth to spare, so I can accommodate new applications quickly and at a high quality."

Michel Boulay,
Enterprise Network Architect, FM Logistic

Cloud-Ready Edge for Internet-Only ROBOs

For "Internet-only ROBOs," Riverbed's application-defined approach to SD-WAN allows businesses to deploy networks in minutes or hours, not days or weeks, while empowering users with secure and reliable access to cloud-based business services. The solution also incorporates Riverbed's performance monitoring solutions to fill visibility gaps often present with distributed, cloud-driven architectures.

Key capabilities include:

- Virtual network design with zero-touch provisioning that allows IT to bring new locations online in minutes

- A cloud-based GUI with business-intent policy management so network changes are made with a few clicks, not 1000s of lines of CLI

- One-click provisioning into Microsoft Azure and Amazon Web Services to scale and simplify cloud connectivity

- An integrated firewall with application-defined controls to enforce acceptable usage

- Real-time insights into network usage for additional security forensics

- End-to-end visibility from the cloud to end users drastically reduces mean time to resolution when issues arise

Cloud-Ready Edge for Hybrid ROBOs

For Hybrid ROBOs that require MPLS, the public Internet, and potentially other modes of transport, Riverbed Cloud-Ready Edge can also include industry-leading WAN optimization and hybrid networking capabilities to seamlessly deliver applications with maximum performance and security.

Additional capabilities include:

- Quality-based path selection automatically identifies apps and steers them over the best path based on business SLAs, security requirements, and link health or availability

- WAN optimization reduces bandwidth consumption by minimizing the amount of data that traverses networks. Extending this capability to cloud and SaaS environments accelerates cloud performance across the edge.

Cloud-Ready Edge for Stateful ROBOs

For stateful ROBOs that have advanced storage, server, and data-hosting requirements, customers can add local compute and data security functions virtualized in the data center and projected to edge locations over optimized network links.

Additional capabilities include:

- Converging all ROBO infrastructure to one appliance or server-compliant software, eliminating the need to purchase and maintain disparate equipment

- Deploying or updating network services, apps, or entire sites as quickly and easily as spinning up VMs in the data center

- Eliminating tedious, error-prone processes such as branch backups by centralizing them

- Completing ROBO recovery in minutes from the data center or cloud to meet the most aggressive RTO/RPO requirements

- Protecting 100% of data at all times, encrypted at rest with 256-bit encryption or secured in-flight with SSL or IPsec

- Accelerating and optimizing applications and data transfers across distributed networks, between ROBOs, and to, from, and between clouds

Business Outcomes

Riverbed Cloud-Ready Edge delivers an unprecedented combination of agility, security, and performance needed for digital business success.

- **Agility**: Deploy sites in minutes, from networking to apps to data and security. The necessary IT services are delivered to ROBOs instantly, securely, and without effort for employees.

- **Security**: Centralize all data where it can be protected using enterprise-grade devices and continuously monitor for and prevent network-based intrusions—all while ensuring ROBO users have secure access to the cloud-based apps and data they need for optimal business execution.

- **Performance**: Optimize the performance of all critical business applications—on-premises, SaaS, or cloud—to deliver user experiences that maximize business productivity.

"We've removed a great deal of complexity from our environment, which will significantly streamline IT management and administration. Ultimately, when you consider the competitive cost-per-gig we get from Azure and StorSimple, the productivity gains from accelerated recovery times, together with simplified management, Riverbed was a no-brainer."

Daymon Whitehead,
IT Operations Manager, Visy

Solution Value In Action

Customers leveraging Riverbed solutions experience:

Up to a 93.75%
reduction in site provisioning time (12 hours down to 45 minutes)

96x faster
RTO (24 hours to 15 minutes) and mere seconds of data loss (RPO)

33x faster
SaaS apps like Salesforce, Office 365, ServiceNow, and Box

82.4% faster
MTTR when addressing application performance issues

497% and 521% three-year
ROIs when using WANOP and performance monitoring capabilities

What Cloud-Ready Capabilities Do You Need for Your ROBO Locations?

	Internet-only ROBOs	Hybrid ROBOS	Stateful ROBOs
SD-WAN for cloud connectivity and branch networking	✓	✓	✓
Integrated performance monitoring	✓	✓	✓
WAN optimization and cloud/SaaS acceleration		✓	✓
Edge data services			✓
Extensible services platform			✓

Bring Your Enterprise Edge into the Cloud and Digital Era

The Riverbed Cloud-Ready Edge is a comprehensive platform, customized to help IT leaders address today's application, data, and network needs, and flexible enough to grow for tomorrow. To learn more, visit www.riverbed.com/cloud-ready-edge.

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