

# SteelHead Cloud

Removing network inhibitors for fast, secure, delivery of cloud workloads anywhere

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Moving data to the cloud or between clouds enables enterprises to tailor the unique services of each cloud to meet business needs. By 2028, the global volume of data is expected to continue its rapid growth, reaching approximately 394 zettabytes.<sup>1</sup> A significant portion of this data will be moved to the cloud from various sources, including data centers, edge computing, and other clouds. According to Gartner, by 2028, 70% of workloads will run in a cloud computing environment.<sup>2</sup> This indicates a substantial migration of data to the cloud, driven by the need for scalability, flexibility, and cost-efficiency. AI-driven data usage will contribute significantly to the overall data movement to the cloud, as AI applications require extensive data processing and storage capabilities.<sup>3</sup>

## Business Challenges

Network operations teams face the task of transferring data from wherever it resides to where it is needed—safely, accurately and cost-effectively. However, the growth in data is outpacing today's network capacity, leading to increased operational costs and expensive data migration. And moving sensitive data requires robust security measures to prevent breaches and ensure compliance. Data centers and branch offices are no longer the center of the IT universe. But organizations are not moving workloads to a single cloud as 92% of companies are expected to distribute workloads across multiple cloud providers.<sup>4</sup>

<sup>1</sup>Big data statistics: How much data is there in the world

<sup>2</sup>Prediction: 80% Of Enterprise IT Will Move To The Cloud By 2025

<sup>3</sup>AI to drive 165% increase in data center power demand by 2030

<sup>4</sup>Emerging Cloud Strategies: Hybrid Cloud vs. Multi-Cloud in Enterprise Computing

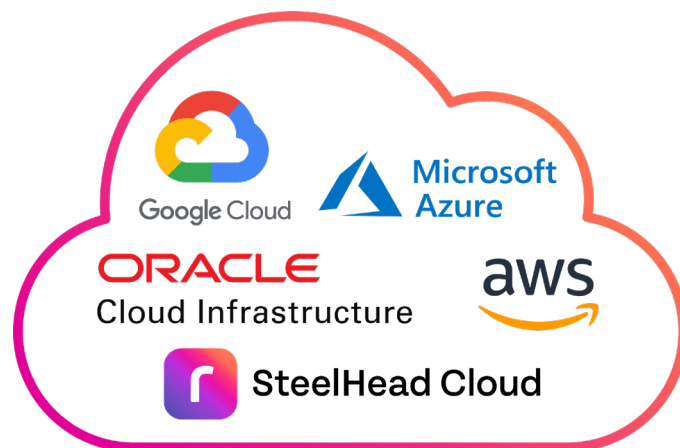
Thus, the challenge in moving data is not just between a data center to one cloud, but rather from both data centers and edge locations to multiple clouds as well as between clouds. This is particularly true with an artificial intelligence application running on specialized AI infrastructure running on any of the major hyperscale cloud providers that must be fed data from enterprise applications and public data sources running on different clouds as any number of edge computing locations.

## Move Massive Data Sets to the Cloud

Riverbed's SteelHead Cloud enhances network capacity, optimizes operational costs, and ensures secure, compliant data transfer. Through data streamlining and resilient optimization techniques, SteelHead cloud can move massive data sets between data centers, clouds, or edge locations to fully leverage enterprise and AI applications.

SteelHead Cloud is uniquely suited for data movement to the cloud, extending subscription-based network optimization and application acceleration to Microsoft Azure and Amazon Web Services with planned support for Oracle Cloud Infrastructure and Google Cloud Platform.

Riverbed SteelHead Cloud can provide comparable speed and capacity of a direct connection to hyperscalers with the price model of a VPN connection. This can save you significant money as it facilitates faster, more efficient and cost-favorable movement of large data sets between data centers and cloud, or edge locations to the cloud, through data streamlining and transport optimization techniques. Additionally, SteelHead Cloud enhances security of data transfers with post-quantum-computing encryption and confidential computing support.



## Keep It Safe and Secure

With embedded Intel® Confidential Computing, SteelHead Cloud enables secure data sharing across on-premises locations, edge devices, and cloud servers—even when working with sensitive, confidential, or regulated data. Initial support for confidential computing is on SteelHead Cloud running on Azure or AWS with instances capable of Total Memory Encryption (TME), with support with support on other clouds to follow. In addition, SteelHead Cloud running Riverbed’s innovative RiOS 10 integrates quantum-safe algorithms and hybrid cryptographic solutions, allowing organizations to seamlessly secure their networks against quantum risks while maintaining compatibility with existing infrastructure. Other security features include:

### Secure Boot

Assures software integrity and ensures secure data delivery.

### TPMs (Tamper Proof Modules)

Secure master keys for the secure vault.

### Total Memory Encryption

Makes any tampering blind to data and code.

- **Confidential Computing:** RiOS 10 supports Intel TDX for hypervisor-specific security, preventing hyperjacking and ensuring secure data processing. This [confidential computing](#) technology in Riverbed solutions provides strong protection against unauthorized access, even by privileged users such as system administrators, hypervisors, or malicious software, thus also guaranteeing data integrity. Attestation provides the mechanism to validate that the environment is secure and has not been tampered with before sensitive operations are executed.
- **Post-Quantum Cryptography:** RiOS 10 implements [post-quantum cryptography](#) (PQC) and hybrid cryptographic solutions, allowing organizations to seamlessly secure their networks against quantum risks while maintaining compatibility with existing infrastructure and ensuring compliance with NIST and IETF standards.

## The Power of SteelHead Cloud

Riverbed’s SteelHead Cloud removes performance barriers to hybrid cloud and multi-cloud deployments by combining market leading Riverbed acceleration technologies.

### Data Streamlining

- Patented, scalable, data referencing technology to reduce the bandwidth used to transmit data by up to 99%
- Provides industry-leading scalability and patented deduplication
- Works with TCP-based protocols and applications, including file sharing (SMB), Web applications (HTTP and HTTPS), database software and collaboration tools (CAD, SharePoint, email)

### Transport Streamlining

- Reduces the number of TCP packets required to transfer data by 65-98%
- Enables the acceleration of TLS-encrypted traffic to eliminate the security versus performance trade-offs

### Application Streamlining

- Offers the broadest support for application-specific modules to provide performance improvements on top of the data and transport streamlining optimization performed on all TCP traffic
- Reduces application protocol chattiness up to 98%

## Agility

SteelHead Cloud is available with Riverbed Flex, a subscription-based offering that provides architectural freedom, license portability, value-retention with overall improved TCO for SteelHead Acceleration products. The offering enables the usage of Riverbed Acceleration value across any of our supported deployment types: cloud, virtual or hardware in your data center, with unlimited portability under an active subscription. Whether you are new to Riverbed Acceleration or looking to refresh an existing Riverbed solution, this new subscription model delivers:

- License Portability: Riverbed Acceleration licenses can be transferred from hardware, virtual or cloud at no cost, providing architectural freedom to best meet networking needs.
- Future Proofing: Get peace of mind knowing you have access to the latest acceleration capabilities and can easily scale as needs change.
- Optimized ROI: Right-sizing your acceleration needs with an OPEX approach that protects your investment.

## Let Riverbed Help You Remain in Control of the Cloud

Moving applications and data to the cloud is fraught with risk, but Riverbed is here to help you navigate the uncertainties. With Riverbed, you can accelerate your cloud transformation while preempting the pitfalls of moving to the cloud, gaining the levels of performance, agility, and security needed to thrive in today's digital age.

## Learn More

To learn more about SteelHead Cloud, please visit us at [riverbed.com](https://riverbed.com).



### About Riverbed

Riverbed, the leader in AIOps for observability, helps organizations optimize their user's experiences by leveraging AI automation for the prevention, identification, and resolution of IT issues. With over 20 years of experience in data collection and AI and machine learning, Riverbed's open and AI-powered observability platform and solutions optimize digital experiences and greatly improves IT efficiency. Riverbed also offers industry-leading Acceleration solutions that provide fast, agile, secure acceleration of any app, over any network, to users anywhere. Together with our thousands of market-leading customers globally – including 95% of the FORTUNE 100 – we are empowering next-generation digital experiences.

Learn more at [riverbed.com](https://riverbed.com).