

Closing the Cloud Visibility Gaps

Riverbed solutions provide full visibility into cloud environments to help reduce cost and complexity, while ensuring overall network security

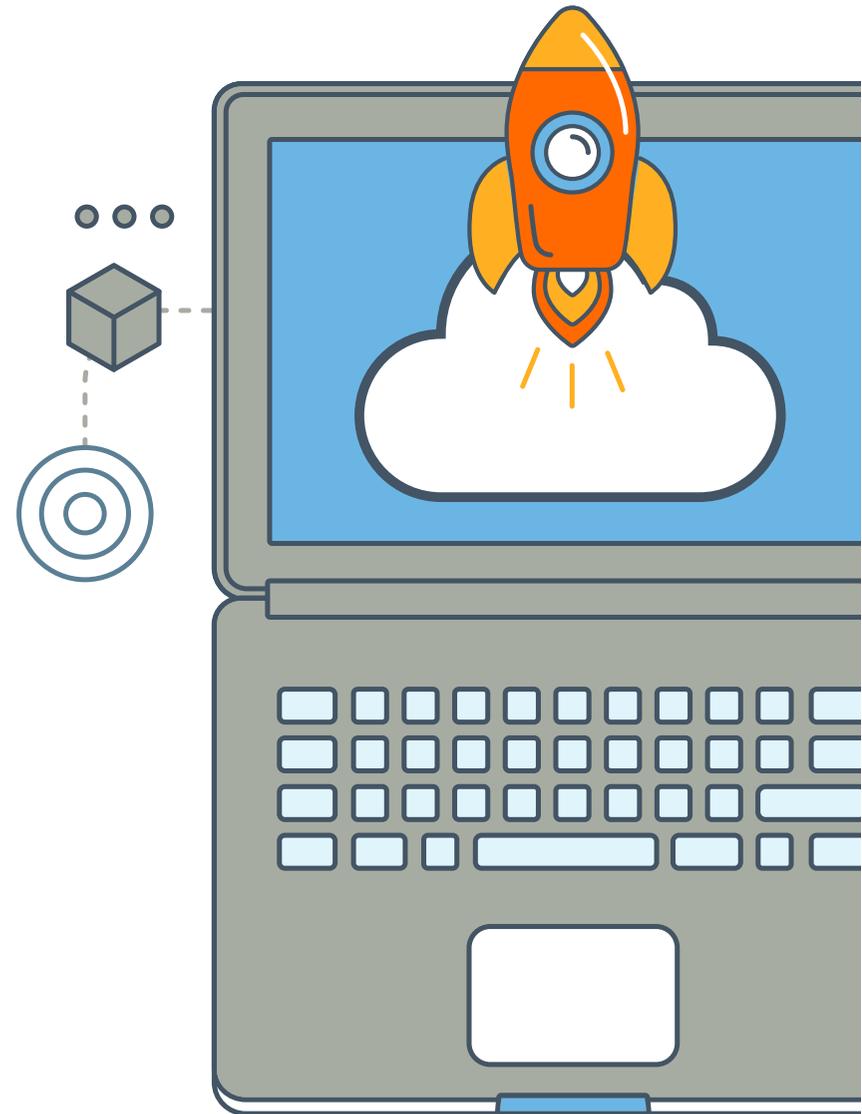


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Cloud Usage Continues to Grow

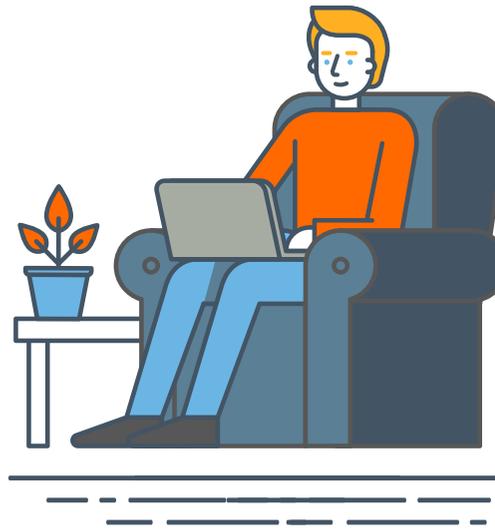
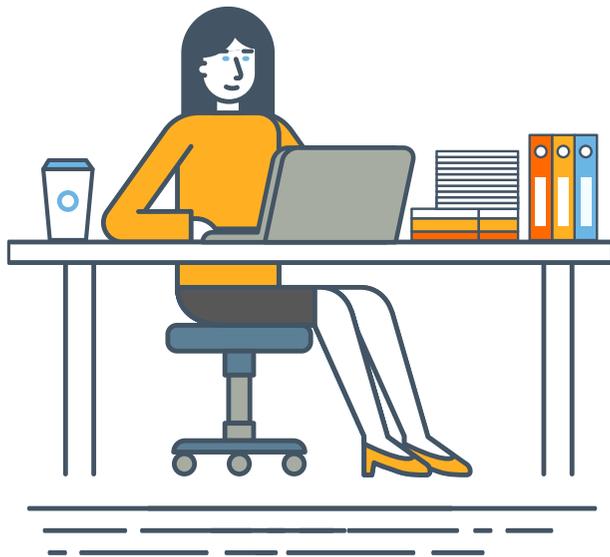
Cloud adoption was expanding rapidly prior to COVID-19. During, and even after the pandemic, cloud migration and adoption are increasing even faster to adapt to work from home and the needs for increased resiliency.

Multi-cloud, the use of more than one infrastructure as a service (IaaS) provider, continues to be the dominant strategy, adopted by 78% of organizations.¹

94% of organizations currently use public cloud services (SaaS, IaaS). In fact, the use of infrastructure as a service (IaaS) has almost doubled in the last five years, from 42% in 2017 to 78% in 2021.²

Nearly half (45%) of organizations now have a cloud-first strategy.³ And, according to [Flexera](#), 55% of enterprise workloads are expected to be in a public cloud within twelve months.⁴ This grows to nearly 80% of remaining on-prem workloads over the next 5 years.⁵

All this bubbles up to say, cloud is mission critical for today's organizations.



Cloud Challenges



Cloud Migrations

51% of organizations report understanding app dependencies as the top cloud migration challenge.⁶

Mapping all the relationships across apps, hardware and networking devices for each service is notoriously difficult to do, especially in a rapidly evolving cloud environment.



Cloud Costs

Organizations estimate **30%** of cloud spend is wasted, although this estimate is probably low.⁷

Organizations also struggle to track and control growing cloud costs. Public cloud spend is over budget by an average of 24%. Despite this, organizations expect their cloud spend to further increase by 39% in the next 12 months.⁸ This means it's more critical than ever to get a handle on accurate forecasting and cost optimization.



End User Experience

34% of IT operations say end user experience is the most important means for measuring success.⁹

With cloud, IT no longer controls the IT infrastructure on which business critical apps run. Your cloud vendor's SLA doesn't really balance that risk. End User Experience Monitoring helps hold cloud vendors accountable to eXperience Level Agreements (XLAs) that reflect what users see and feel when they interact with cloud apps.



Cybersecurity

95% of cybersecurity professionals confirm they are extremely to moderately concerned about public cloud security – up from 91% in last year's survey.¹⁰

The top security concerns include the risk of data loss and leakage (63%), threats to data privacy (63%), and dealing with legal and regulatory challenges (40%).

Visibility Gap

Like the majority of enterprises, there is a critical gap in your hybrid cloud infrastructure—a visibility gap. This gap makes it difficult to see what's going on in your network because many existing tools don't have the full-fidelity visibility collection or the breadth of telemetry to span your entire hybrid cloud infrastructure.

The majority (61%) of enterprises say their ability to manage public cloud networks is inferior to their management of internal network assets.¹¹



“Knowledge without visibility is useless. With the Riverbed solution, we were able to identify issues immediately. We have the visibility, the detail, and the technical insight necessary to address the problem.”

Alper Umit Yilmaz

IT Operations Director
n11.com

Cloud Visibility

Riverbed® provides full-fidelity, end-to-end visibility, including rich and diverse hybrid cloud visibility along with the ability to collate and apply analytics to derive meaningful and actionable insights.

Understanding what constitutes normal traffic patterns, detecting anomalies, accurately identifying correlations versus causations, and being able to quickly respond to performance problems and cybersecurity threats – all of this depends on your ability to see and analyze what is happening across your distributed network – in the cloud, virtual and on-premises.

Riverbed provides the critical visibility necessary to support core cloud visibility use cases: enabling cloud migrations, monitoring cloud network and application workloads, end user experience monitoring, reducing cost and complexity, and ensuring security.



“By pinpointing the reasons behind slow (SaaS-delivered EHR application) logins, Aternity helped us save 14 seconds on each of 300 logins a day. That’s 70 extra minutes a day for patient care—303 hours a year—for the listening and caring we’re known for.”

Robert Dulak

Chief Information Officer
Lighthouse Guild

Wide Variety of Cloud Data Sources

Here are some of the ways Riverbed provides visibility into cloud environments:

Synthetic Transaction Monitoring allows proactive monitoring of network paths between disparate locations, including SaaS solutions like M365. Automated scripts are used to analyze the performance of your website or application. Scripts are coded to mimic how a user interacts with their applications. The response time, lag, and various other interactions are logged and measured using the script.

End User Experience solutions provide visibility into the end user experience of every cloud, SaaS, thick client, or enterprise mobile app in your portfolio, running on any device. It enables teams to monitor the impact of application and device performance from the end user's point of view.

Cloud Native APM takes a scalable big data approach to monitoring cloud-native applications that deliver unified visibility across the modern application ecosystem, is easy to deploy and manage, and results in faster troubleshooting for even the toughest performance problems.

Flow Logs (i.e., AWS VPC Flow Logs and Azure NSG Flow Logs) provide similar information to traditional on-premises flow standards such as NetFlow or sFlow. Flow telemetry provides insight into which devices and applications are consuming bandwidth, how long the conversations last and who participates in them. It can also be used for application discovery and cost analysis.

Virtual Network Terminal Access Points (VTAP) solutions provide packet-level details from public cloud (IaaS/PaaS) providers such as Amazon and Microsoft. VTAPs allow customers to gain native insight and access to network traffic across their cloud infrastructure for network and application performance analysis and threat monitoring.

Riverbed Fills the Gaps

1. Accelerate Cloud Migration

Riverbed solutions provide complete lifecycle support for cloud migrations by helping to identify hidden risks and constraints that can lead to performance issues, unexpected delays, and unplanned costs.

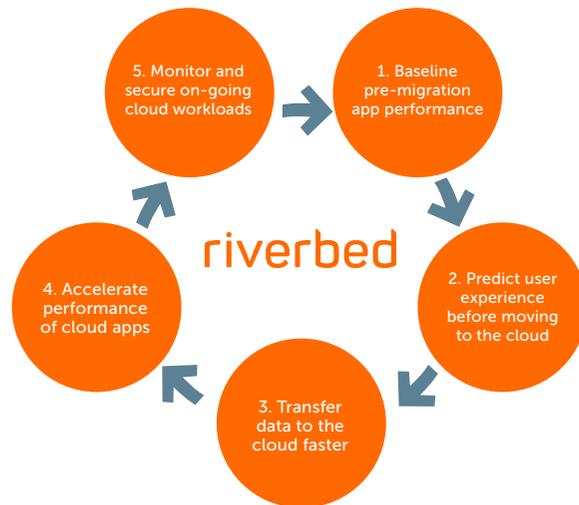


Figure 1: Riverbed complete cloud migration solution from planning to executing to sustaining.

2. Monitor End User Experience

End User Experience monitoring enables IT to monitor users' interactions with applications in the context of a business workflow. It works for *any type of application*—local, cloud, web, or mobile.

Our EUE automatically sets baselines for normal performance of cloud workloads. Use the baselines to establish performance SLA thresholds for each business process and it will alert you if any thresholds are exceeded. This lets you receive notification the instant your cloud user experience starts to go bad. Armed with this information, you can hold your cloud vendor accountable!

3. Optimize Costs

Our cloud flow solution offers reports that help you understand where your cloud costs are occurring so you can make better plans and decisions to help minimize them. It lets you know how much traffic is exiting the cloud, the most expensive type of cloud data, versus how much is traversing VNets, the next tier of pricing. Knowing this type of information helps you better plan where your data and applications should reside to gain efficiencies.

4. Ensure Security

Riverbed provides always-on, full-fidelity capture of network traffic to deliver the total visibility necessary for network defense in depth for hybrid environments. SecOps teams leverage this visibility to support three core security management use cases: threat hunting, incident response, and deep forensics analysis.

¹ ESG, Data Center Infrastructure Spending Change, 2021

² ESG, Technology Spending Intentions Survey, Dec 2020

³ ESG, Data Center Infrastructure Spending Change, 2021

⁴ [Flexera, State of The Cloud Report, 2021](#)

⁵ ESG, 2021 Technology Spending Intentions Survey, Dec 2020

⁶ ESG, 2021 Technology Spending Intentions Survey, Dec 2020

⁷ [Flexera, State of The Cloud Report, 2021](#)

⁸ Ibid

⁹ EMA, Network Management Megatrends, 2020

¹⁰ [AWS Cloud Security Report, 2020](#)

¹¹ EMA, Network Management Megatrends, 2020

About Riverbed

Riverbed enables organizations to maximize performance and visibility for networks and applications, so they can overcome complexity and fully capitalize on their digital and cloud investments. The Riverbed Network and Application Performance Platform enables organizations to visualize, optimize, remediate and accelerate the performance of any network for any application, and helps to identify and mitigate cybersecurity threats. The platform addresses performance and visibility holistically with best-in-class WAN optimization, unified network performance management (NPM), application acceleration (including Microsoft 365, SaaS, client and cloud acceleration), and enterprise-grade SD-WAN. Riverbed's 30,000+ customers include 99% of the *Fortune* 100. Learn more at riverbed.com.

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