riverbed

Network Visibility for Public Cloud Infrastructure

Riverbed NPM platform brings rich observability to Amazon Web Services (AWS), Microsoft Azure and Google Cloud Platform.

You're moving your applications to Cloud to gain flexibility and scale, not to lose visibility. Riverbed NPM platform provides network and application visibility into AWS, Azure, and Google Cloud Platform for confidence in your cloud operations and visibility into application performance.

Riverbed AppResponse Cloud always-on packet capture and automated packet analysis, letting you observe all network and application interactions in the cloud as they cross the virtual wire. Using powerful, flexible network and application analytics and workflows, Riverbed AppResponse Cloud speeds problem diagnosis and resolution, helping you get answers fast.

Riverbed NetProfiler provides enterprise-wide network flow and security analysis and reporting across hybrid and multi-cloud environments to streamline the diagnosis and remediation of performance issues and security threats.

Packet Based Cloud Visibility

Riverbed AppResponse Cloud provides the same easy-to-use visibility into cloud environments as its on-prem and virtual counterparts. This means there's no additional learning as you embrace new environments.

- **Ubiquitous Visibility:** AppResponse Cloud can be deployed in AWS and Azure and leverages either cloud-native or 3rd party packet brokers for instrumentation.

- **Security Forensics:** AppResponse stores and analyzes all packets all the time, so the evidence is there when you need it.

- **Fast Answers:** Built-in analytics highlight issues brewing on the network, allowing you to get ahead of problems before they become full-blown incidents. Streamlined troubleshooting workflows and high-definition application data help you determine answers quickly—typically in minutes.

Riverbed AppResponse Cloud Highlights

- **Flows, Packets Better Together:** Generate NPM flows from packets to provide a coalesced view of performance and utilization and gain unmatched depth and breadth of network traffic observability.

- **Application Auto-Discovery**: Auto-discover 2,000+ applications to identify worst performing apps, busiest apps by various metrics such as highest server turns, TCP resets, bandwidth usage, etc.

- **TruePlot:** Quickly identify patterns with patented TruePlot™ technology that isolates each unique transaction to help you spot hard-to-find trends.

- **Adaptive Thresholding:** Defeat alert fatigue with adaptive alerts that baseline your traffic and learn patterns to automatically set and adapt to new trends.
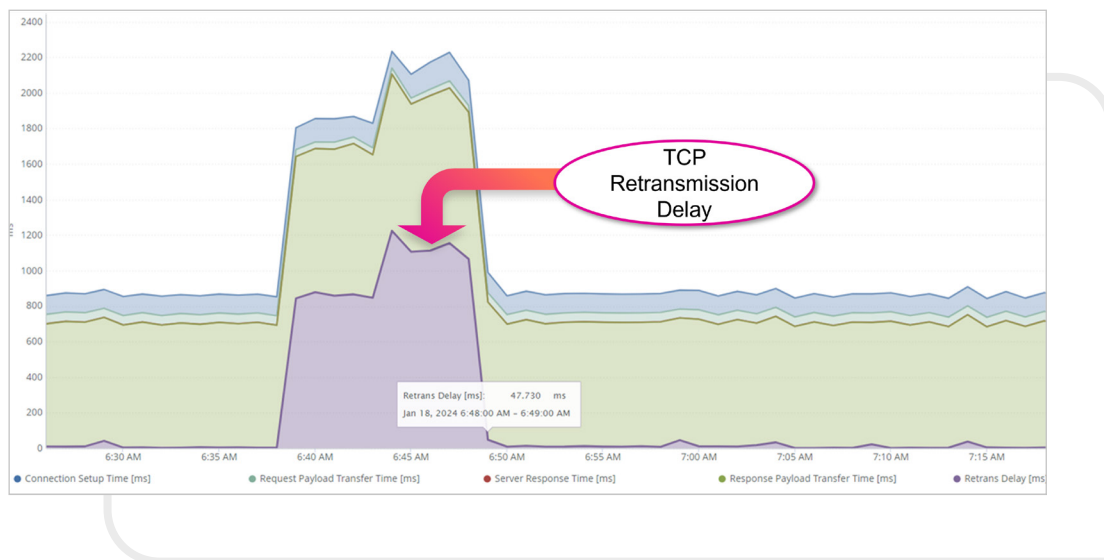

Figure 1: Riverbed AppResponse Response Time Composition Chart breaks down traffic's delay components in real-time.

Packet Telemetry

The best way to feed packets to an Riverbed AppResponse in the cloud is via sources that send mirrored or spanned packets through an ER-SPAN, VxLAN or GRE tunnel. Several vendors offer software versions of their packet broker products that are deployable in Azure as well as AWS.

These are the recommended packet sources for Riverbed AppResponse for public cloud. AWS also has native VPC Traffic Mirroring capabilities that acts as a packet source and is officially supported.

Flow-Based Cloud Monitoring

Riverbed NetProfiler flow monitoring provides the most complete view of your network performance. It enables you to see your cloud, virtual, and on-premises resources in the same views so you get a truly end-to-end perspective on hybrid cloud network and application performance.

Riverbed NetProfiler can be deployed in Azure and in Azure Government. It can also be deployed in AWS and AWS Government (West) and in virtual and physical appliance form factors for easy multi-cloud and hybrid cloud monitoring.

Riverbed NetProfiler analyzes flow traffic from across the enterprise–from the core to the branch, to the cloud. It discovers all application assets, maps dependencies and monitors network and application services, regardless of where they sit.

NetProfiler cloud-specifics include:

- Where are we incurring egress bandwidth costs? And how can we save money?
- How's the cloud network performing?
- Who's talking to whom?
- What protocol are they using? How often? How much?
- How is traffic flowing through the network?

Whether you're selecting which applications to migrate, planning the move, or monitoring cloud network and application performance, NetProfiler offers rich visibility to make your cloud transformation a success.

NetProfiler can receive cloud flows from following:

- Use AppResponse to generate flows from packets and provide a coalesced view of performance and utilization with drill downs from flows to raw packets, RTT and response times for conversations. Leverage benefits of remote perspective of flow with centralized deep-dive analysis of packets.
- Cloud Flow Logs provide information about traffic going to and from network interfaces in Azure, AWS, and Google Cloud.
- External/third-party solutions that can generate and send flow in standard format (i.e., NetFlow v5 or v9, IPFIX, etc.)
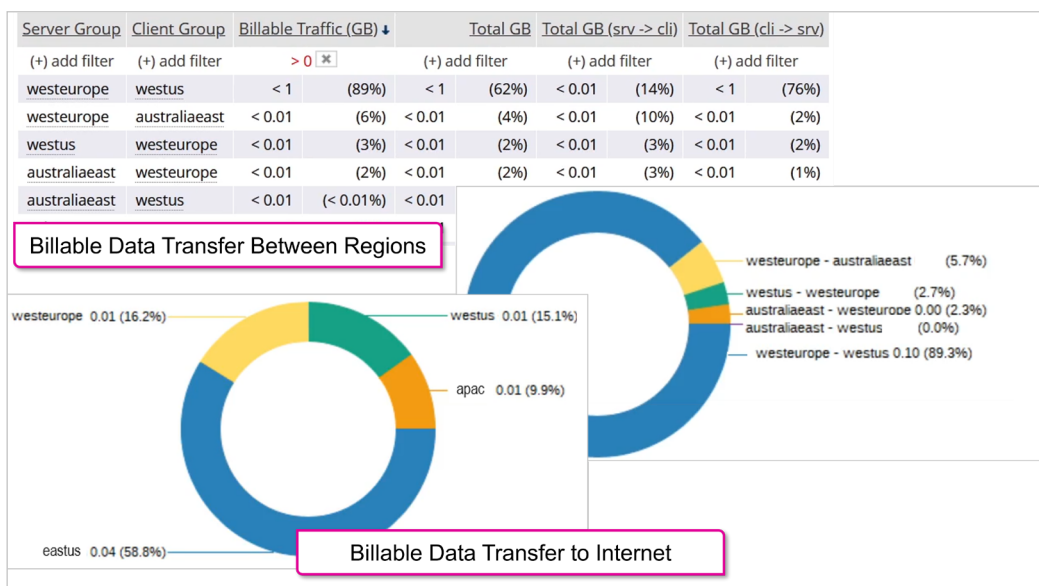

Server Group	Client Group	Billable Traffic (GB) ↓		Total GB		Total GB (srv -> cli)		Total GB (cli -> srv)	
(+) add filter	(+) add filter	> 0 ✕		(+) add filter		(+) add filter		(+) add filter	
westeurope	westus	< 1	(89%)	< 1	(62%)	< 0.01	(14%)	< 1	(76%)
westeurope	australiaeast	< 0.01	(6%)	< 0.01	(4%)	< 0.01	(10%)	< 0.01	(2%)
westus	westeurope	< 0.01	(3%)	< 0.01	(2%)	< 0.01	(3%)	< 0.01	(2%)
australiaeast	westeurope	< 0.01	(2%)	< 0.01	(2%)	< 0.01	(3%)	< 0.01	(1%)
australiaeast	westus	< 0.01	(< 0.01%)	< 0.01					

Billable Data Transfer Between Regions

westeurope - australiaeast (5.7%)
westus - westeurope (2.7%)
australiaeast - westeurope 0.00 (2.3%)
australiaeast - westus (0.0%)
westeurope - westus 0.10 (89.3%)

westeurope 0.01 (16.2%)
westus 0.01 (15.1%)
apac 0.01 (9.9%)
eastus 0.04 (58.8%)

Billable Data Transfer to Internet

Figure 2: Riverbed NetProfiler monitors hybrid cloud performance from Google Cloud Platform, Azure, or AWS.

Packet and Flow Telemetry Together

Having one seamless visibility solution across your data center, the Internet, and cloud providers, helps you understand the impact performance issues have on your business. Further, with the coverage of flows and depth of packets you get the perfect one-two-punch.

In summary with Riverbed NPM, you gain:

- **Ubiquitous cloud visibility:** Gain comprehensive visibility across Azure and AWS multi-cloud hybrid environments.

- **Deploy in the cloud with confidence:** Get the same proven performance monitoring in the cloud as on-premises.

- **Full-Fidelity NPM:** Provide unmatched depth and breadth by coalescing deep-dive packet analysis with the extended perspective of every flow conversation in your network.

- **Decreases Downtime:** Reduce diagnosis time by using the same rich analytics and proven workflows across hybrid multi-cloud environments to locate trouble spots quickly.

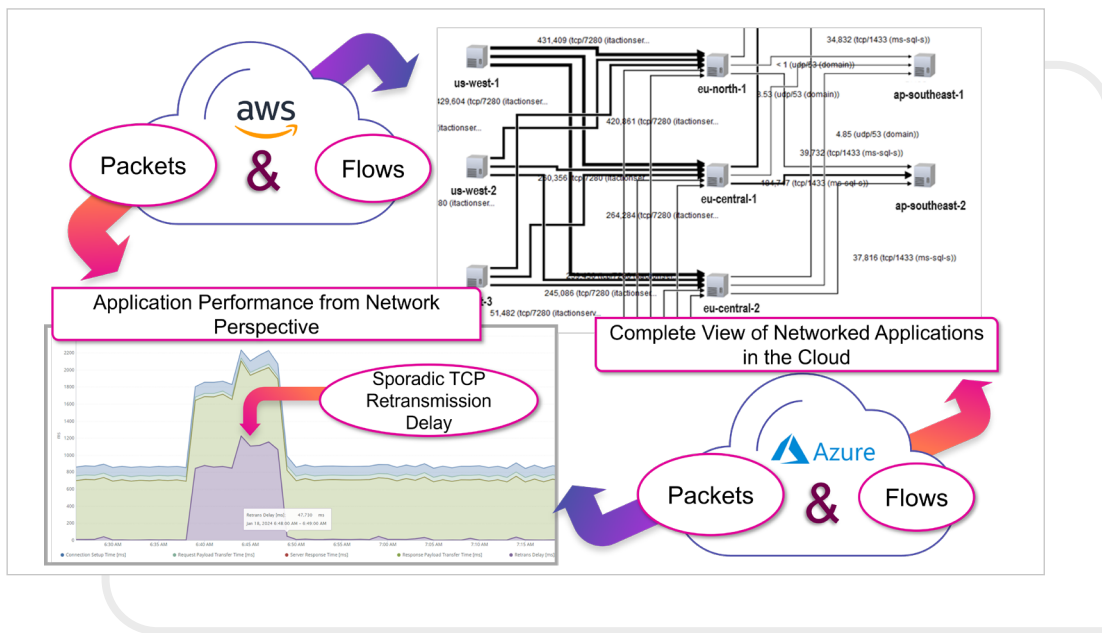To learn more about riverbed cloud visibility offerings visit riverbed.com/solutions/cloud-performance.

Figure 3: Combining packet and flow telemetry for an unparalleled, integrated view of the network.

riverbed

Riverbed — Empower the Experience

Riverbed is the only company with the collective richness of telemetry from network to app to end user that illuminates and then accelerates every interaction so that users get the flawless digital experience they expect across the entire digital ecosystem. Riverbed provides two industry-leading solutions: the Riverbed Unified Observability portfolio, which integrates data, insights, and actions across IT to enable customers to deliver seamless digital experiences; and Riverbed Acceleration, which offers fast, agile, and secure acceleration of any application over any network to users, whether they are mobile, remote, or on-premises. Together with our thousands of partners, and market-leading customers across the world, we empower every click, every digital experience. Learn more at riverbed.com.