riverbed®

PRODUCT FAMILY BROCHURE

# The Riverbed Platform

## Unified Observability and Acceleration

## Complexity Drives Need for AIOps

In an era where IT complexity is accelerating at an unprecedented pace and user experience expectations have become more demanding, IT leaders have come to recognize they need an innovative approach. The advent of AIOps marks a transformative shift in addressing the complexities and the demands of enterprise IT environments.

When it comes to delivering on the promise of superior digital experiences and application performance, observability, AI, and automation are required across all points of the enterprise computing model. In addition, IT organizations require full-fidelity telemetry to understand, predict, prevent, and resolve issues. Relying on sampled or synthetic data is not optimal for building effective AI.

Riverbed has a different and superior vision for an open observability and acceleration platform. Supported by full-fidelity data collection across the enterprise, Riverbed provides the depth and breadth of observability that IT teams – from the CxO to Service Desk to NetOps and SecOps –to monitor and troubleshoot all applications and all users and across edge, data center and cloud environments.

The Riverbed Platform unifies data, generates insights, and automates actions, empowering IT teams to deliver end-to-end performance visibility and seamless digital experiences.

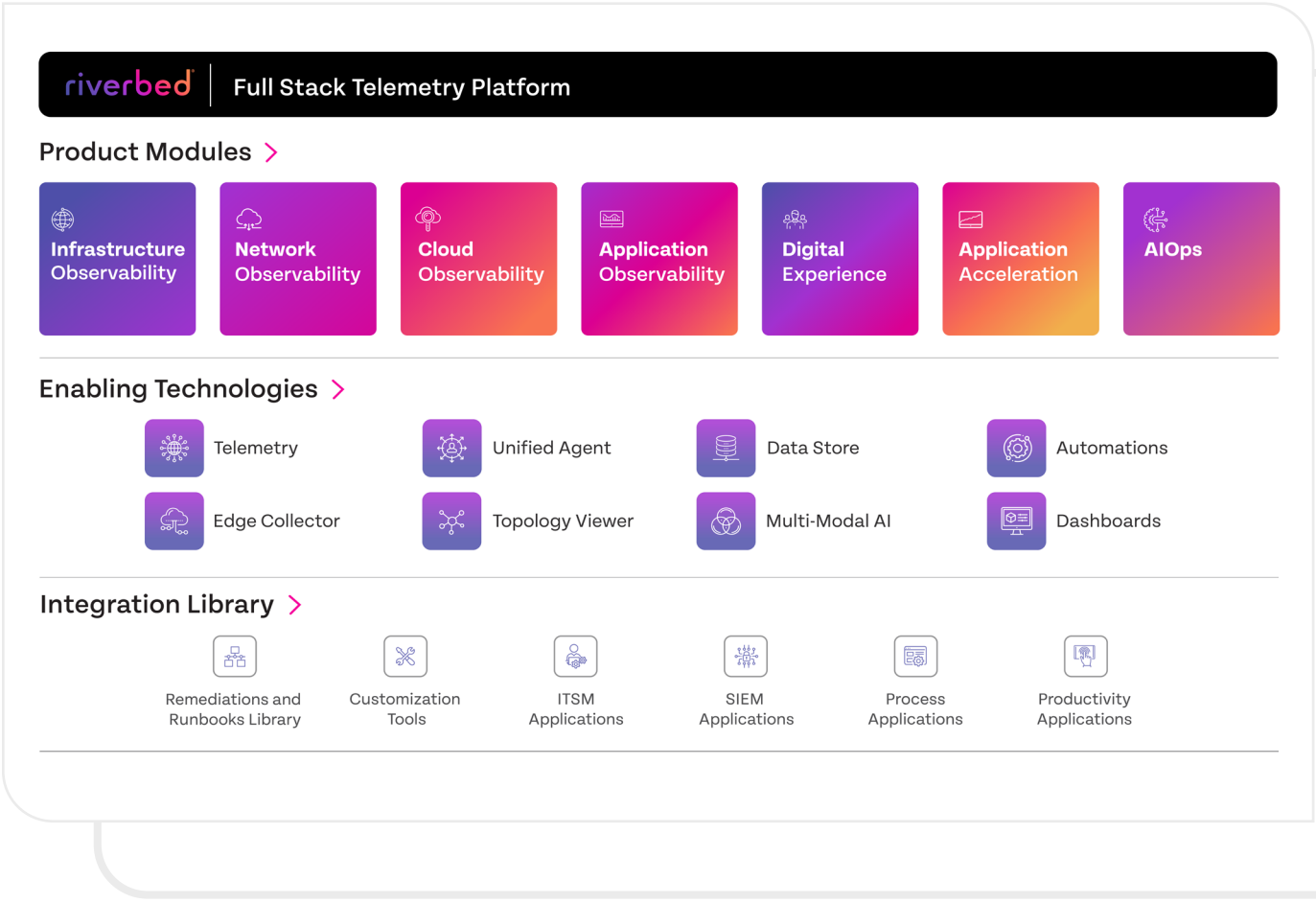


**Figure 1:** he Riverbed Platform consists of observability and acceleration products, enabling technology that supports the platform, and an integration library of automations, remediations, and integrations.

## Full-fidelity Telemetry

Riverbed captures full-fidelity data from across the enterprise for total observability of health and performance. The platform marries infrastructure, network, and application observability across edge, cloud and data center locations with digital experience and application acceleration. The Riverbed Platform leverages AI techniques and automation to bring together key metrics and events for centralized analysis and reporting.

Riverbed Unified Agent provides an innovative common agent strategy that streamlines deployment and management of all Riverbed and select third-party agent-based offerings. Designed to collect full-fidelity network and end user experience data from edge, data center and cloud environments, Unified Agent enables massive scalability and efficiencies.

Unlike other products that sample or use synthetic data to deal with the scale of today's distributed environments, our platform captures every transaction, packet, and flow. It also analyzes both quantitative and qualitative user experience for every type of application, including cloud, SaaS, and mobile.

## AIOps Reduces Noise

The Riverbed Platform leverages a variety of AI techniques and correlation to improve and speed problem identification. AI identifies unusual patterns or outliers in IT operations data, while correlation organizes indicators into associated groupings to connect related indicators through use of time, location, connection, and relationship maps. This is done to reduce alert noise and identify and prioritize the business-impacting events.

Key AI techniques that Riverbed uses include:

- Causal AI is used to determine the exact underlying causes and effects of events or behaviors.
- Predictive AI identifies patterns in past events and make predictions about future events
- Generative AI is used to generate new content from existing datasets.
- Explainable AI describes an AI model, its expected impact and potential biases.
- Clustering determines if there are any commonalities or relationships between the detected anomalies.

## Automated Diagnosis and Remediation

Automation helps growing businesses scale IT operations by reducing operator drudgery and increasing the speed, quality, and repeatability of analysis. Riverbed automates incident response and remediation of IT problems by executing low-code runbooks in response to a correlated event. IT uses automated investigative workflows to replicate the troubleshooting practices of both ITOps and Service Desk experts. These iterative processes gather supporting diagnostic evidence, build context, and set priorities so IT teams have the data they need to resolve problems quickly.

Riverbed supports four out-of-the-box automation use cases that extract insights from across Riverbed telemetry and third-party tools to enable faster time to resolution:

- **Incident response:** Reduce incident noise by creating fewer, more meaningful alerts and resolve incidents faster and more proactively using runbooks that automate collection of diagnostic data.
- **Security forensics:** Investigate security threats found by traditional security tools by leveraging security runbooks to gather supporting forensics from Riverbed and third-party solutions.
- **Smart trouble ticketing:** With Riverbed AIOps, complex ticketing workflows become razor sharp, highly automated processes. Streamline ServiceNow ticket creation and escalation with context-driven insights that empower IT teams to proactively resolve issues without escalating.
- **Intelligent service desk:** Riverbed Aternity leverages automation runbooks to dynamically replicate advanced Service Desk processes by correlating end-user impact and real-time granular performance data to identify incident root cause.

## The Riverbed Platform

An open observability suite evolves and extends the benefits of visibility and monitoring by adding intelligence and automation to create actionable insights that help IT make better, faster decisions, prioritize actions, and quickly resolve problems.

It leverages full-fidelity telemetry of Riverbed DEM and NPM solutions (see Figure 1) to provide an enterprise view of digital experience. In short, Observability enables IT to turn monitoring data into actionable insights and automated actions.

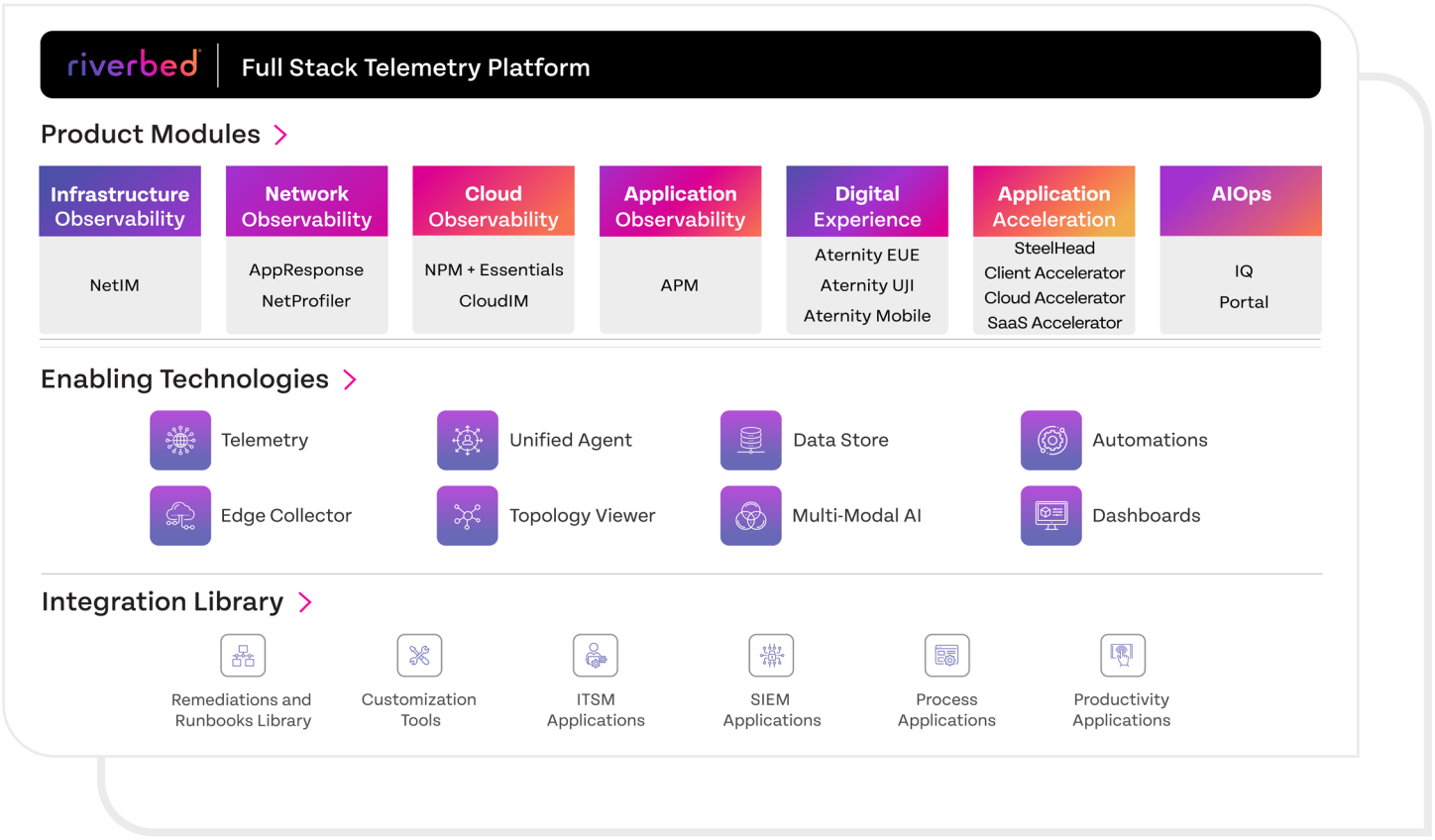


**Figure 2:** Riverbed is helping it organizations build actionable unified observability and optimization strategies with a full-stack telemetry and an AI engine that are simple, smart, and open.

## AIOps

AIOps or Artificial Intelligence for IT Operations leverages AI/ML techniques and automation to get precise root cause, reduce alert fatigue, and enable proactive remediation.

### Riverbed IQ

Riverbed® IQ is a SaaS-based, open, and programmable unified observability service that captures full-fidelity user experience, application, and network performance data on every transaction across the digital enterprise. It applies AI and ML and contextually correlates across disparate data streams to identify issues. This intelligence also powers the low-code investigative runbooks that automated and replicate the troubleshooting investigations of IT experts. It gathers supporting context, filters out noise, and sets priorities—reducing the volume of alerts to the most business impacting. By unifying knowledge across all skill levels, IT teams can accelerate problem-solving, break down silos, and avoid time-consuming war rooms.

> "Riverbed IQ is helping my team realize a self-healing network. Using the built-in features of runbooks and AI/ML we can reduce the number of alerts and capitalize on our automation processes to perform corrective actions to the network before users experience impact. Riverbed IQ is a game changer in monitoring and unified observability."

Earl Foster, Manager Network Services, American Airlines

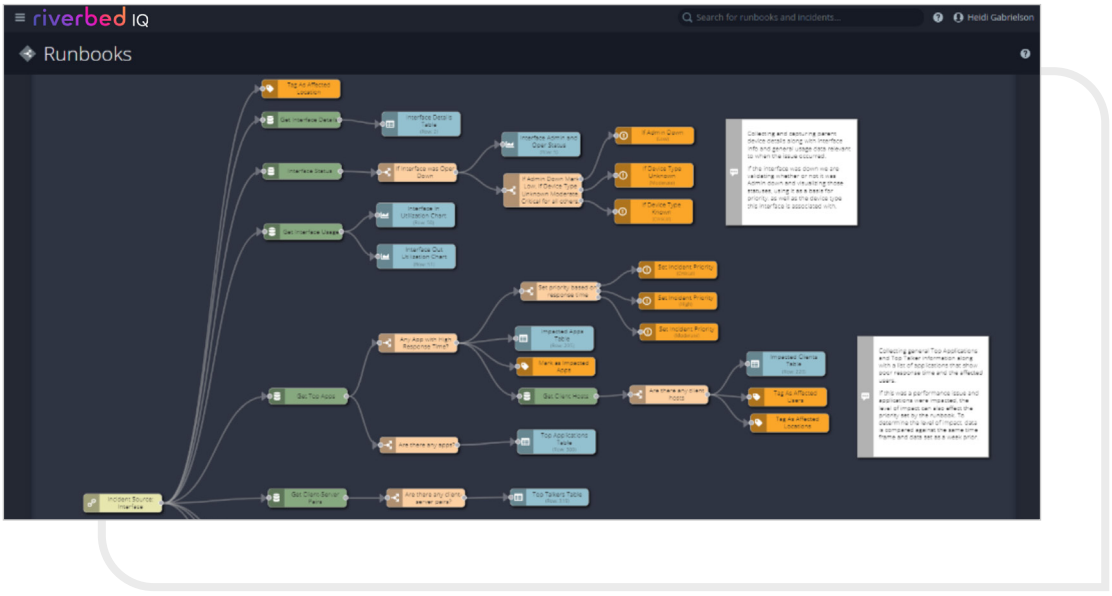


**Figure 3:** Riverbed IQ low-code runbooks automate the data collection process for guided troubleshooting and faster root cause analysis.

### Riverbed Portal

Riverbed® Portal redefines how companies visualize, monitor, report, and troubleshoot enterprise performance metrics by integrating Riverbed user experience, application, and network data into centralized, dynamic dashboards. The holistic views keeping IT resources focused on strategic trouble spots and enable operational teams, executives, and line of business teams to collaborate more effectively on enterprise performance. Ultimately, IT can fast-track troubleshooting across the entire hybrid network.

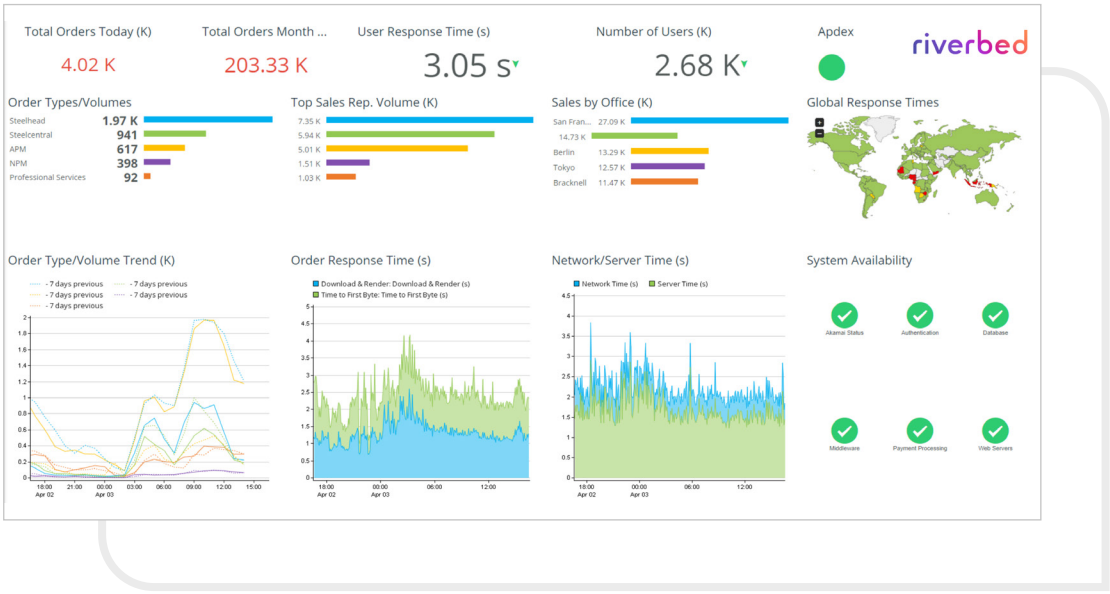


**Figure 4:** Riverbed Portal redefines how companies visualize, monitor, report, and troubleshoot performance by combining user experience, application, and network data into centralized, dynamic and customizable dashboards.

## Infrastructure Observability

### Riverbed NetIM

Riverbed® NetIM provides integrated mapping, monitoring, and troubleshooting for your IT infrastructure. With NetIM, you can capture infrastructure topology information, detect, and troubleshoot performance issues, map application network paths, and diagram your network. NetIM provides agentless infrastructure component monitoring (SNMP, WMI, CLI, API, synthetic testing, and streaming telemetry) to deliver a comprehensive picture of how your infrastructure is affecting network and application performance and how that affects user experience. NetIM infrastructure management complements Riverbed's network and application performance visibility.

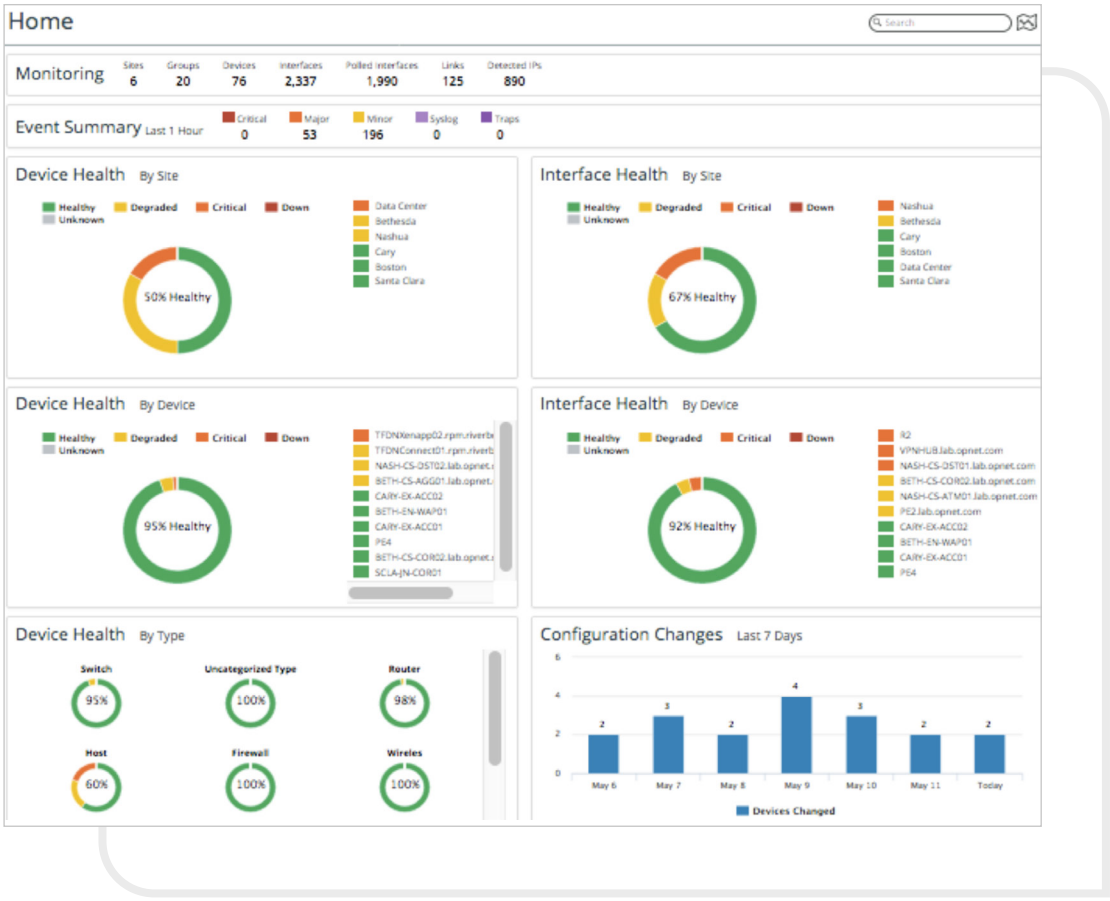


**Figure 5:** IT Infrastructure Observability.

> "There's no other product that can find the root cause of issues faster than Riverbed's Network Observability solution."
>
> Mehmet Arpa, IT Manager, Halkbank

## Network Observability

Riverbed Network Observability is an integrated, but modular solution– it can be used to provide a holistic network and application visibility while any component can be used independently to solve domain-specific problems. This allows investment protection as the NPM solutions can be extended at any time to provide additional breadth, depth, or capacity.

Riverbed network observability portfolio delivers increased business resilience, accelerating operational transformation and improving business responsiveness as organizations transition from legacy to multi-cloud networks.

Our solution helps IT teams adapt to disruptions while maintaining continuous operations and safeguarding people, assets and overall brand equity. Unlike other NPM solutions, Riverbed delivers granular visibility across network domains with full-fidelity data, extracted from packets, flows and device metrics to deliver fast action and insight across hybrid environments. Sustained network innovation expanding visibility across remote, edge, cloud and zero trust environments further solidifies.

## Riverbed AppResponse

Riverbed® AppResponse provides powerful, flexible network and application analytics and workflows to speed problem diagnosis and resolution. Functional out of the box with pre-defined insights and a rich variety of performance metrics. AppResponse helps you get answers fast. It combines network forensics, application analytics and end-user experience monitoring in a single solution so you have everything you need at your fingertips to resolve network and application performance issues quickly. AppResponse passively monitors the network and collects packet data for continuous, real-time, and historical application monitoring. Continuous packet capture means rich troubleshooting details are always available when you need them, saving time and money by minimizing the effect downtime has on business productivity and reducing or avoiding business-stopping slowdowns or outages.

Riverbed AppResponse is tightly integrated with Riverbed Packet Analyzer Plus, which speeds real-time network pack analysis of large trace files using an intuitive graphical user interface and a broad selection of pre-defined analysis views.

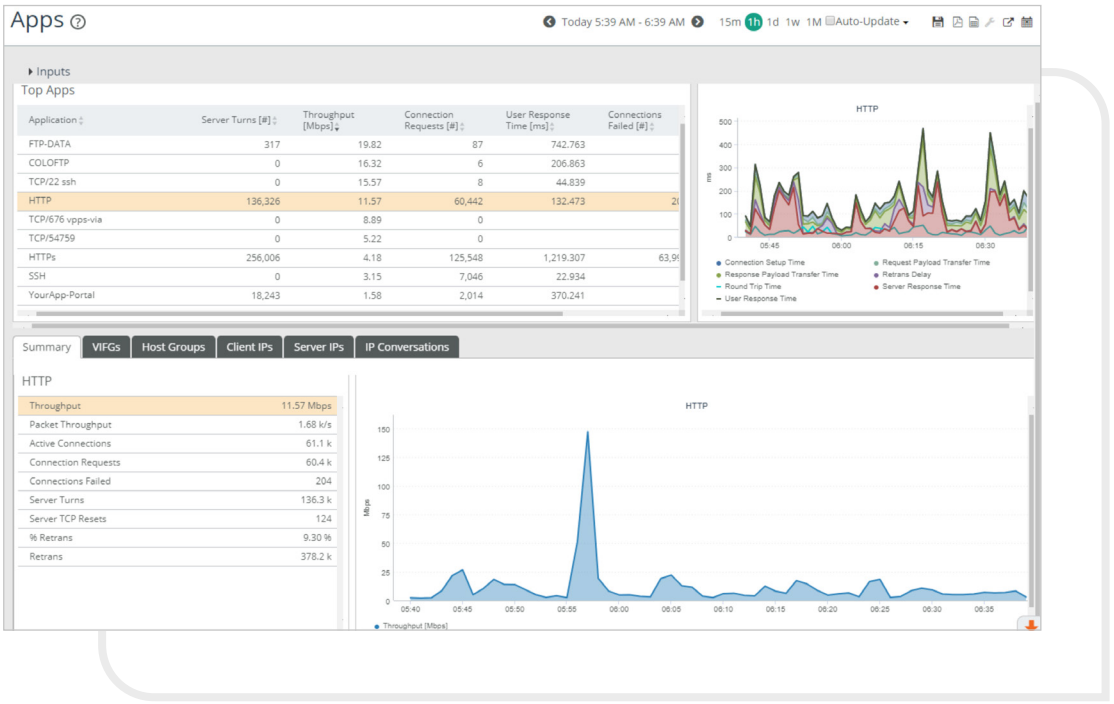


**Figure 6:** Riverbed AppResponse.

## Riverbed NetProfiler

Riverbed® NetProfiler is centralized network flow reporting and analysis that you can use to quickly view hybrid network performance and troubleshoot issues before your end users ever know there is a problem. It can combine network flow data with packet-based performance metrics to provide proactive monitoring, analysis, and reporting. NetProfiler uses automated discovery and dependency mapping to help you understand the application services in your environment and automated behavior analytics to baseline normal performance and alert on abnormal changes as soon as they occur—typically before users are even aware that performance is degrading. NetProfiler leverages Riverbed Flow Gateway for flow collection, aggregation, and de-duplication.

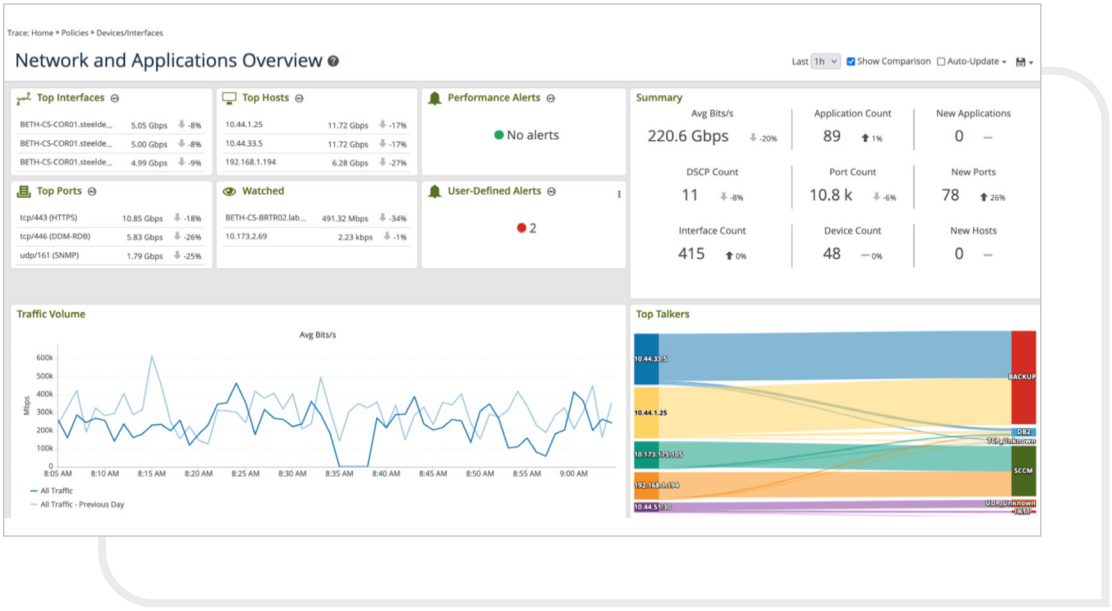


**Figure 7:** Enterprise Flow Monitoring.

# Digital Experience

Riverbed® Aternity full-spectrum Digital Experience provides insight into the business impact of both the customer and employee digital experience by capturing and storing technical telemetry at scale, capturing data across employee devices, every type of business application, cloud-native application services, and end-user sentiment. It unifies the digital experience for customers interacting with the digital services on your website and for employees servicing customers in the contact center, retail branch, or back office.

With the aggregation of insights across application and device performance along with human reactions, Aternity ultimately provides organizations with total experience for both employees and their customers.

## Riverbed Aternity

Deployed as an agent on end-user devices, Riverbed® Aternity measures what users actually see for every transaction and every application running on any device. It automatically discovers EVERY app in your enterprise, tracks actual usage, and provides a score for app performance and health, based on crashes, hangs, errors, page load time and wait time. Isolate the causes of delay to the network, device, or application backend to quickly diagnose and resolve user-impacting issues. Leverage the Riverbed Aternity library of remediation scripts to automatically resolve the most common device or user issues. With Riverbed Aternity, you'll boost customer satisfaction and optimize the productivity of your tech-dependent workforce.

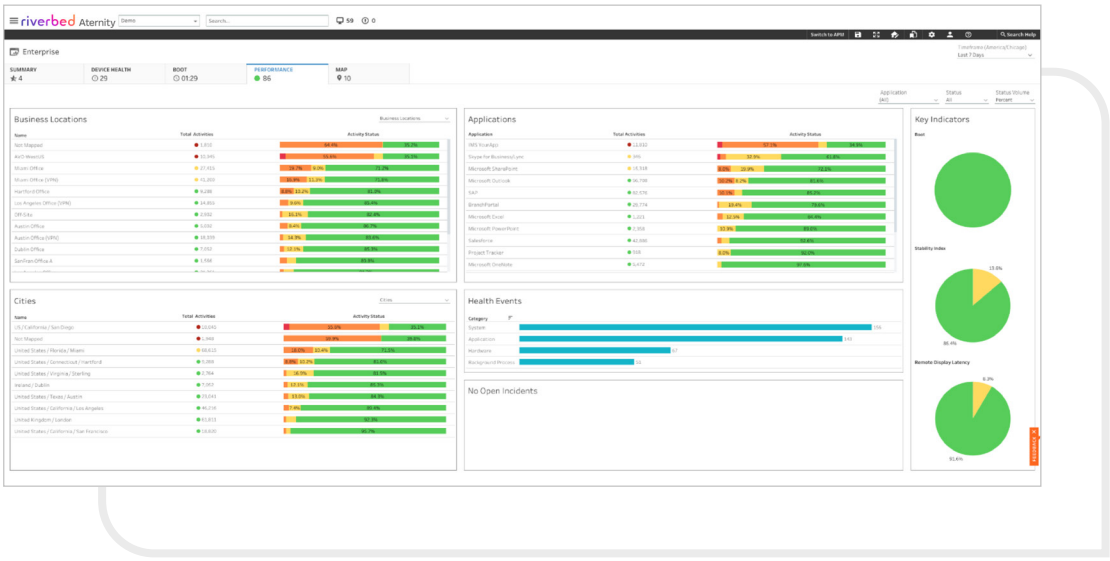


**Figure 8:** Riverbed Aternity shows you the end-user experience on any application or device. Isolate the cause of delays to the network, device, or app backend to quickly diagnose and resolve user-impacting issues.

## Riverbed User Journey Intelligence

Riverbed User Journey Intelligence (UJI) monitor users' digital experience along their journey across your web sites and associate performance to business metrics like revenue, conversion rate, and abandonment rate. It helps increase engagement by optimizing the performance of high converting journeys and cost-justifies improvements where poor customer experience results in drop-offs. UJI helps prioritize optimizations by web page, device, browser, geography, user persona, traffic source and medium, etc. It automatically locates broken links or out of stock inventory and prioritizes the business impact of repairing those links to improve business metrics and the digital customer experience.

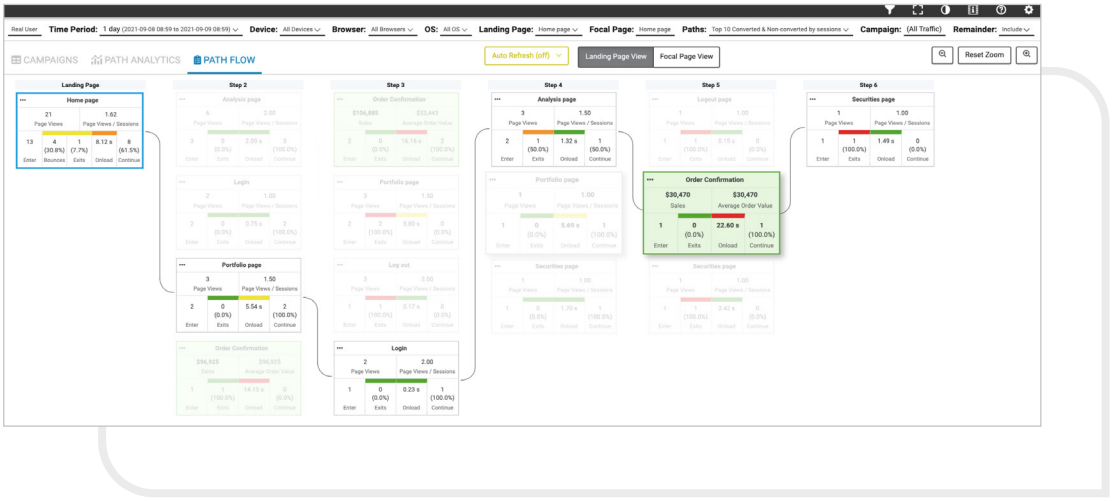


**Figure 9:** Riverbed Aternity UJI enables IT to measure the digital experience of ALL applications involved in the customer journey – from unique paths across digital services on the website to the business-critical applications used by employees.

### Digital Experience Index (DXI)

Riverbed Aternity Digital Experience Index automatically identifies digital experience hot spots impacting employees and customers across your enterprise, then sets you on a path to action and improvement. It enables you to tailor your digital experience goals based on industry benchmarks or to your own historical baselines. DXI automatically shows the business impact of potential improvements on employee productivity by trending performance, associating gaps to lost productivity or revenue, and enabling quick root cause analysis and rapid remediation of the worst performing areas.

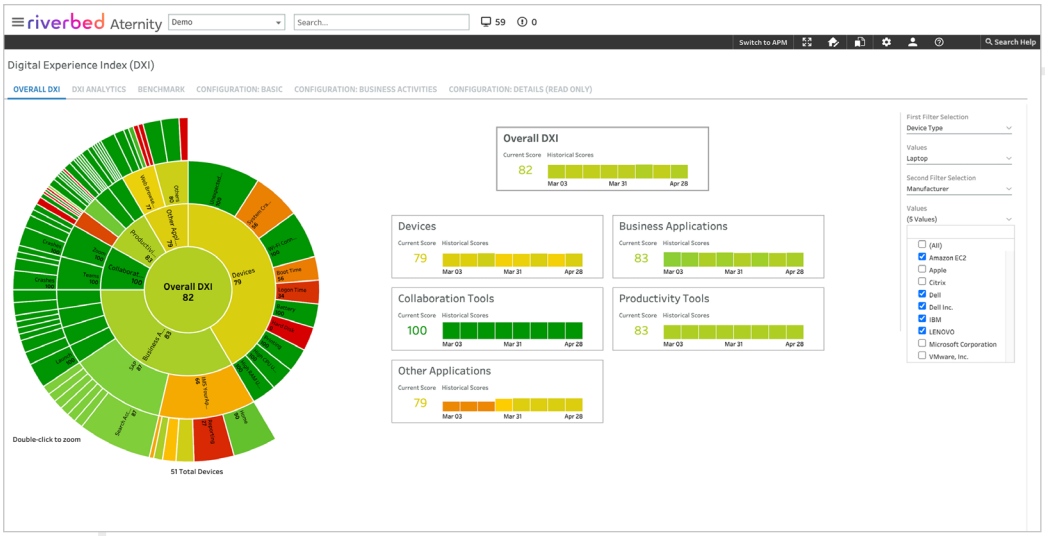


**Figure 10:** Riverbed Aternity DXI automatically identifies digital experience hot spots, then sets you on a path to improvement.

## Riverbed Employee Sentiment

Aternity Sentiment, built into the Aternity DEM solution, enables IT teams to identify user experience issues and take prescriptive, targeted actions, to increase employee productivity, satisfaction, service quality and business performance. With Sentiment, Aternity provides the most complete view of total digital employee experience by tightly correlating quantitative and qualitative measures. Aternity already offers the deepest quantitative insights into employee and customer experience and the ability to benchmark digital experience against industry peers. With Sentiment, Aternity correlates aggregated insights on application and device performance data to human reactions, providing total experience management for employees and customers.

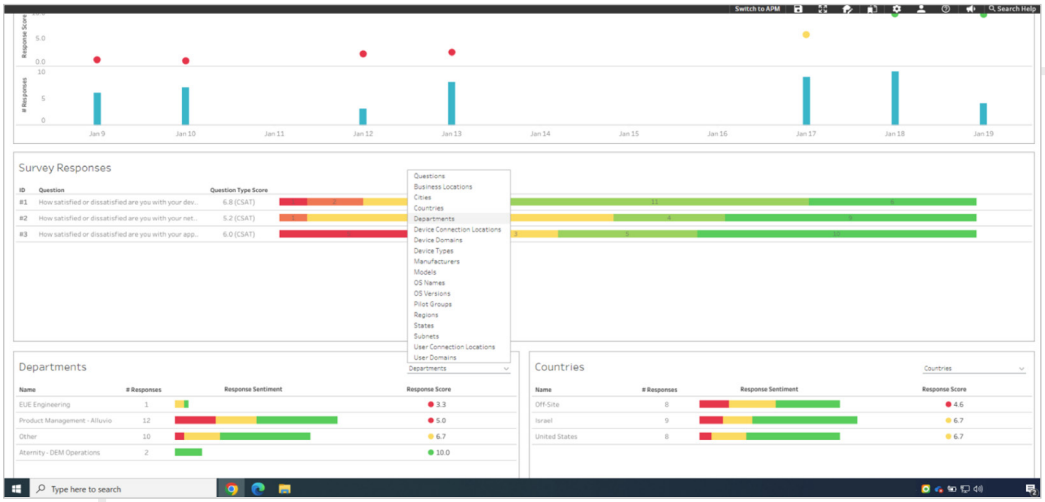


**Figure 11:** To truly understand the complete digital experience, Aternity Sentiment lets you correlate qualitative employee feedback with full-fidelity quantitative performance metrics.

> “We’ve completely transformed the way we manage issues, moving from being reactive to proactive and now we can actually foresee and manage issues before they arise. Riverbed Aternity has transformed the way we work and how IT is perceived as a department throughout the business.”
>
> Donna Lloyd, Senior Enterprise Product Manager, Platforms & Enablement, Enterprise IT, EDF

## Application Observability

### Riverbed APM

Riverbed APM (Application Performance Monitoring) delivers comprehensive and observability for transactions running on modern cloud and application infrastructures, including Docker, Kubernetes, Pivotal, Red Hat OpenShift, OpenStack, Amazon Web Services, Google Cloud Platform, and Azure. It captures, stores, and indexes across billions of transactions a day without sacrificing data completeness, granularity, or depth, letting you reconstruct incidents in detail with the most complete distributed tracing in the industry. Designed for simplicity, agility, and collaboration in alignment with modern DevOps requirements, Riverbed Aternity uses lightweight, non-intrusive instrumentation to automatically discover new code components and container instances. Its alerts, metrics, and diagnostics can be consumed across the enterprise IT ecosystem for immediate insight into even infrequent or intermittent issues.

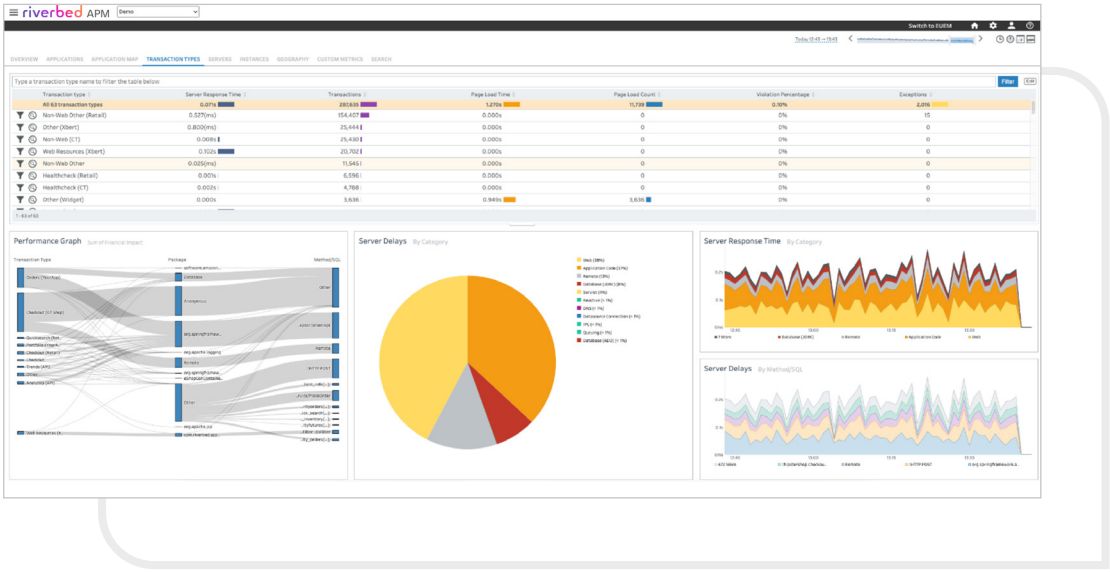


**Figure 12:** Riverbed APM is fully adapted to the cloud-native ecosystem, delivering comprehensive observability for transactions running on modern cloud and app infrastructure.

## Enabling Technologies

Enabling technology are important building blocks of the Riverbed Platform. These tools form the basis of our AIOps platform.

**Telemetry:** to truly deliver a seamless digital experience IT needs full-stack, full-fidelity observability across user experience, application, infrastructure, and network performance data for every transaction.

**Riverbed Unified Agent:** is an innovative common agent strategy to streamline deployment and management of all Riverbed and selectable third-party agent-based offerings. It is a key component for capturing full-fidelity telemetry across edge, data center and cloud environments.

**Edge Collector:** acts as a data broker between Riverbed IQ and our on-premises-based products, including NetIM, NetProfiler, and AppResponse for effective network monitoring and analysis. It facilitates the forwarding of observability data for correlation and analysis and reaches back into the products for more detailed diagnostic data.

**Data Store:** is an essential element of our AIOps service. It provides the ability to capture and store vast amounts of real-time and historical data for analysis and connects data into a virtual, distributed data warehouse that enables Riverbed IQ to access raw data from all Riverbed observability sources.

**Multi-modal AI:** using AI and ML techniques, Riverbed IQ sifts out noise and preprocesses raw data. This process aggregates, normalizes and standardizes the data in preparation of analytics to begin. Furthermore, it enables proactive alerting on known scenarios to trigger automation.

**Automation:** leverage runbooks to efficiently respond to or manage complex tasks such as root cause analysis, forensic analysis, and intelligent ticketing. Automation codifies expert knowledge into workflows that automatically collect relevant diagnostic data, identifies impact, and sets the priority.

**Dashboards:** for visualizing and reporting on all cross-domain data in flexible ways.

**Integrations Library:** offers hundreds of pre-built runbooks, remediations and integrations with third-party solutions.

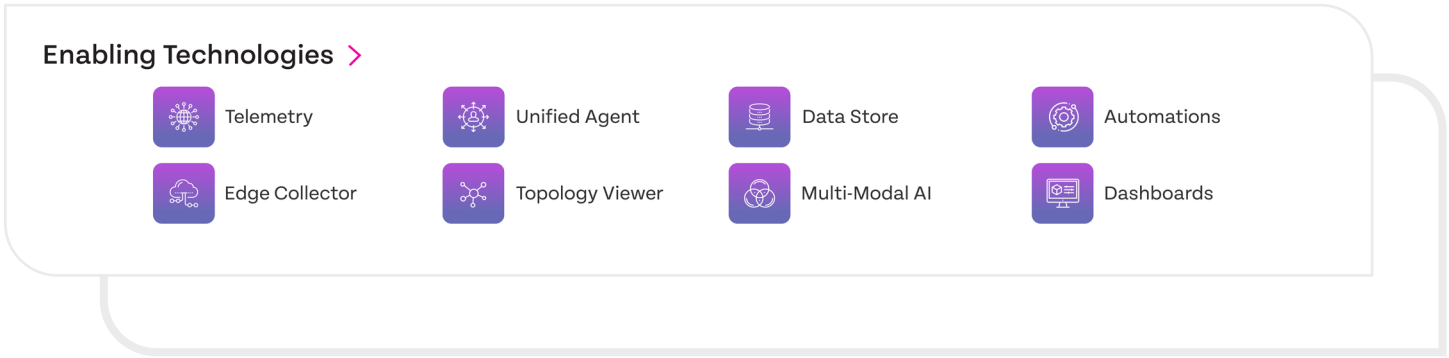


**Figure 13:** Riverbed Enabling Technologies.

## Learn More

For more information about the Riverbed Platform, visit riverbed.com.

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.