

EBOOK

# Making Data Work for Autonomous IT Operations

Riverbed Data Store: Real-time  
intelligence for **AI-driven operations**

riverbed<sup>®</sup>

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# AI Has a Data Problem

Autonomous IT operations don't happen by accident. They are enabled by advanced AI: AI that can understand, decide, and act in real time.

For employee experience teams, this is the goal: eliminating disruption before it impacts users. But achieving that requires AI that can operate with precision and confidence.

And that depends on data. AI needs the right data, at the right time, and at the right level of quality to work as intended. AI adoption is accelerating rapidly, but without solving the data problem, most organizations will never reach autonomous operations.

Most organizations already have more data than they know what to do with. It's generated across devices, applications, networks, and cloud environments, captured by dozens of tools. For teams responsible for employee experience, it often feels like everything needed to understand and improve the user experience is already in place.

But when teams try to apply AI in real environments, something breaks. The answers are inconsistent, root cause remains unclear, and outcomes are difficult to trust.

The issue isn't volume. It's access and usability.

The data required to understand what's really happening is spread across isolated pools throughout the organization some in data centers and much of it in cloud and SaaS environments. Bringing that data together in real time is extremely difficult.

Most tools only see the data they collect. Expanding beyond that view requires integrating additional sources—forcing employee experience teams to take on the role of system integrator, stitching together data across domains that were never designed to work as one.

Even the most sophisticated organizations struggle to make this work at scale.

**Until this problem is solved, AI in employee experience will continue to fall short of its promise and autonomous IT will remain out of reach.**

# The Missing Piece

This isn't a tooling problem. It's a data problem. More specifically, it's a data usability problem.

Organizations don't lack data. They lack a way to make that data work together consistently, in real time, and at the scale required for AI.

This is exactly what the Riverbed Data Store was built to solve.

Instead of requiring teams to build their own data pipelines, integrate dozens of tools, and reconcile inconsistent data models, the Riverbed Data Store does that work for them. It ingests data from across the Riverbed platform, spanning device, application, and network domains as well as third-party data sources. This ensures a complete, unified view of the environment without requiring organizations to replace existing tools. It connects that data, normalizes how it is structured, and delivers it in real time with the context required to understand what is actually happening.

# A Smarter Approach to Data: In-Place and Indexed

What makes this approach fundamentally different is how the data is handled.

Rather than centralizing and moving large volumes of data, the Riverbed Data Store leaves data in place and uses intelligent indexing to access it. The AI-driven decision engine pulls only the data it needs at the moment it's needed into analytics and correlation workflows.

**This ensures systems receive just the right data, at the right time, and at the right level of quality.**

This eliminates one of the biggest barriers to AI in employee experience. Teams no longer need to act as system integrators. They no longer need to manually connect signals. And they no longer need to question whether the data they're seeing is complete.



# Open by Design with Smart OTel

Not every organization starts from the same place. Some are still working to bring their data together. Others have already invested in centralized data repositories, data lakes, or observability platforms.

Riverbed is designed to support both. The Riverbed Data Store extends existing strategies through Smart OpenTelemetry (OTel).

Traditional OpenTelemetry approaches stream large volumes of raw telemetry, forcing teams to sift through noise to find what matters.

Riverbed takes a different approach.

Smart OTel uses intelligent filtering and event-driven collection to capture only relevant data across all domains—including third-party sources.

It can ingest non-OTel data and convert it into OTel-compliant formats, while exporting structured, high-quality data to enterprise platforms.



# From Data to Action

Modern IT already knows how to collect data. But collecting and connecting data is not enough. Without structure and correlation, even the most advanced AI cannot operate effectively.

Through the Riverbed Data Store, data is indexed and prepared for real-time use. AI can then analyze, understand, and act.

**This creates a complete model:**



**This is how organizations move from visibility to outcomes.**

# What This Enables for Employee Experience Teams

Data is the critical element in AI.

If you want to achieve precise AI-assisted operations or lay the foundation for Autonomous IT, you have to start with your data and how it is structured.

Most organizations don't have a data problem. They have a data architecture problem.

Too often, the response is to add another repository or pipeline creating yet another silo in an already fragmented environment.

**You don't need another data silo.  
You need a data structure strategy  
that can grow with you.**



AI does not operate on intent.  
It operates on data.

If that data is incomplete, disconnected, delayed, or inconsistent, the outcome is the same limited insight, unreliable recommendations, and actions you cannot trust.

Without a unified way to access and structure data across the environment, AI is forced to operate on partial views. And partial data leads to partial answers. The Riverbed Data Store addresses this at the foundation.

It creates a unified data structure, connecting data across domains and making it usable in real time.

### This is what enables AI to operate with precision:



**Understand cause  
and effect**



**Correlate across  
the environment**



**Act with  
confidence**

Without this foundation, AI remains assistive at best and unreliable at worst. With it, organizations can move beyond experimentation and begin building toward Autonomous IT.

# From AI to Zero Disruption at Scale

When AI operates on complete, connected, and real-time data, the role of IT fundamentally changes.

Issues are no longer discovered after the fact, they are identified as they emerge. Root cause is no longer inferred, it is understood with precision. And remediation no longer waits for escalation, it begins before users are impacted.

This is the shift from reactive operations to intelligent operations. And it is only possible when AI can operate on data that is complete, consistent, and available in real time.

With usable data in place, AI moves from understanding to action continuously monitoring, correlating, and responding across the environment.

Problems are not just resolved faster.  
They are avoided altogether.

## **This is what defines Zero Disruption.**

Not fewer incidents.

Not faster tickets.

But the ability to prevent disruption before it occurs.

At scale, the impact becomes transformational.

Organizations reduce tool sprawl and eliminate entire classes of manual correlation work. They accelerate resolution times and reduce dependency on reactive troubleshooting.

Employee experience improves—not incrementally, but materially—because issues are prevented rather than managed.

**This is a shift in operating models  
and the bridge to Autonomous IT.**

# The Shift to Autonomous IT with Riverbed

With usable data in place, AI moves beyond assistance to action. This is where the operating model begins to change.

Instead of waiting for issues to surface, AI continuously monitors and correlates signals across the environment, detecting patterns, identifying root cause, and initiating response in real time.

Instead of relying on manual investigation, IT teams operate with systems that can understand what is happening and take action automatically.

This is not automation layered on top of existing processes. It is a fundamentally different way of operating.

With Riverbed, AI operates on a complete, real-time view of devices, applications, and networks, allowing it to act with precision across the entire environment.

**This is what enables IT to move from supporting operations to orchestrating outcomes. And this is what defines Autonomous IT.**

# Conclusion: When Data Works, AI Works

The path to Zero Disruption depends on more than visibility. It depends on data that can be trusted, understood, and acted upon. Most organizations already have the data. What they lack is the ability to use it.

The **Riverbed Data Store** closes this gap. Because when data works, AI works. **This is what separates AI that assists... from AI that acts.** And when AI acts, disruption disappears.

[Learn more >](#)



## About Riverbed

Riverbed, the leader in AI observability, helps organizations optimize their users' 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 improve 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).