

# Riverbed Solutions for DevOps

## Accelerate Business Innovation with Faster Releases and Higher-Impact Applications

In an era driven by digital disruption, demands for agility and faster innovation have increased, compelling 78% of companies to adopt some level of DevOps<sup>1</sup>. Emphasizing tighter collaboration between developers and operations teams, these organizations seek to build, deploy, and support the right software capabilities the market is seeking—capabilities that are delivered faster, more frequently, and with higher service quality to improve business value and customer satisfaction.

The benefits of DevOps are clear. High-performing organizations report 46x more frequent deployments, 96x faster mean time to resolution, and 440x faster lead times<sup>2</sup>—figures that all underscore improved time to market for new apps and services as well as vast cost-savings. These companies also spend 22% less time on unplanned work or rework<sup>3</sup>, freeing up valuable time for continued innovation.

## Challenges

While DevOps has emerged to revolutionize how apps are developed and delivered, several issues still exist across the application lifecycle. Development bottlenecks still occur, production issues pop up that cripple apps and digital services, and the business often lacks insights needed for better product planning. More specifically, DevOps teams are hindered by the following challenges:

- 1. Quickly collecting diagnostics to help developers troubleshoot bugs found in QA:** Reproducing scenarios that cause test cases to fail distracts developers from fixing bugs and improving their code.
- 2. Rapidly testing changes against real-world conditions:** Once released to production, applications will potentially be exposed to a number of factors that QA or test scenarios can't account for, leaving newly deployed capabilities susceptible to ongoing performance issues and user complaints.

### 3. Reconfiguring networks using outdated

**management tools:** Even if an application is developed using today's best practices, it won't perform properly if the underlying network isn't stable. Unfortunately, today's networks are hardware-bound, fragile, and growing in complexity. Reconfiguring router-based networks is time-consuming and error-prone, making it difficult for network teams to keep pace with aggressive release schedules. Lastly, extending networks to the cloud is equally time-consuming, as commonly used VPNs involve complex setups and negotiating policies between IaaS providers and all business locations.

### 4. Having limited performance insights, on and off

**the cloud:** Virtually anything that touches an app can affect its performance. The network is generally the first to receive blame, but there are several other common culprits—application code, application infrastructure, user endpoints, and more. Compounding the problem is increased reliance on cloud-based technologies, as service provider SLAs end at the edge of the cloud. Yet, IT is still responsible for end-to-end performance.

### 5. Managing increasingly distributed, complex

**architectures:** In addition to cloud adoption, the proliferated use of containers, microservices, and other third-party components creates an application topology that is often transient, nebulous, and unpredictably interrelated with countless other services. This poses serious challenges for performance monitoring, since many tools and techniques are still rooted to static physical concepts like tiers, servers, and JVMs.

### 6. Arming the right teams with the right insights to resolve production issues:

The use of disparate, domain-specific tools can prove to be ineffective and error-prone. Translating performance data into actionable intelligence requires experts from various domains to analyze outputs from their respective tools, often making troubleshooting a highly manual, resource-intensive effort.

### 7. Measuring the success of application capabilities:

IT has historically focused on metrics like availability and response time, which are important indicators of service quality. However, those metrics fail to report on performance from the perspective of the end user, nor do they quantify IT's contribution to revenue. As a result, it's often difficult for application owners to understand how new capabilities are being adopted, as well as what their overall impact is on the business.

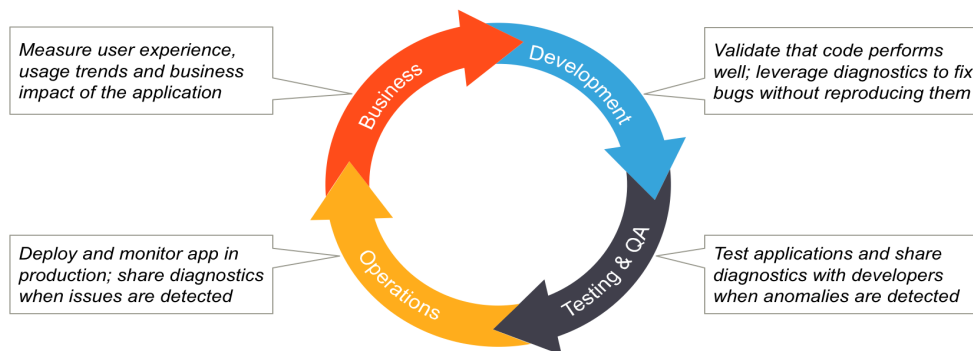
## Solutions

Riverbed helps DevOps-oriented teams become more efficient with solutions that accelerate software development, improve application delivery, and continuously fine-tune performance—all while ensuring releases achieve business objectives.

## Performance by Design

Fixing bugs early during development reduces costs and ensures timely, higher-quality releases. Riverbed solutions empower DevOps practitioners to engineer for performance, right from the very beginning of design and development, by providing:

- Detailed analytics with contextual insights across apps, networks, and infrastructure for easy debugging in development and QA.
- Transaction tracing that exposes application behavior on and off the cloud and within containerized environments.
- Synthetic testing across all infrastructure components to quickly validate SLAs will be achieved in production.
- REST APIs to accelerate the collection, sharing, and analysis of data during performance testing, helping ensure releases are optimized for production.
- End-user experience monitoring that delivers timely insights on user satisfaction, response times, adoption, and usage trends for test groups.



Riverbed APM tools can help you keep pace with aggressive release schedules, maintain quality, and optimize application performance. We can also help you measure the end-user experience, identify changing usage trends, and quantify the business impact of an application.

**Riverbed APM tools promote faster releases and higher quality**

## Ongoing Service Assurance

Deploying releases more frequently can strain operations teams and negatively impact service levels in production. Riverbed's application performance management (APM) solutions help you stay on top of your dynamic infrastructure, so you can consistently ensure performance and user satisfaction:

- Continuous, full-stack monitoring across devices, apps, networks, and infrastructure—on and off the cloud—to rapidly identify and resolve issues.
- Automated application mapping exposes issues or validates changes during new roll-outs.
- Dynamic instrumentation makes it effortless to monitor container health or availability; works transparently with popular orchestrators.
- Integrations with popular collaboration tools allow teams to act swiftly on alerts or events; support teams can automatically open tickets in incident management tools to log issues and diagnoses.

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**“AppInternals is a tool that really helps bring an app into production faster, and then once it’s in production, gives us the visibility to ensure that there are no issues that were missed.”**

Darren McDaniel  
IT Lead for Marketing, Southeastern Grocers

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- Log analysis integration simplifies troubleshooting by enabling teams to stitch logs to application activity, eliminating the need to manually correlate log messages with APM data.
- Unified dashboards generate common views into application performance, enhancing collaboration between teams when troubleshooting issues.

## Improving Continuous Delivery

Measuring the impact of new capabilities is paramount to successful DevOps. Moreover, networks—vital to continuous delivery—must match the automation provided by other DevOps tools.

Riverbed's APM solutions help IT and business leaders understand the impact of their apps and plan for future capabilities.

- End-user experience monitoring provides insights into high- or low-performing features for more informed roadmap planning.
- Performance graphs provide rich details into transactions—including their financial impact—helping prioritize tuning or optimization efforts.
- Detailed diagnostics reduce the need to replicate erroneous scenarios so developers fix bugs faster during development, QA, or production.

To bring more agility to release cycles, Riverbed's SD-WAN solution simplifies network build-outs with:

- Zero-touch provisioning and a menu-driven design so networks at new sites can be set up in minutes.
- Business intent-based management that makes segmenting and reconfiguring networks easy. New policies for security, performance, and usage requirements are set and deployed automatically with a few clicks.
- One-click provisioning for Microsoft Azure and Amazon Web Services to quickly and securely extend networks into the cloud.

## Learn More

Riverbed solutions provide detailed performance diagnostics and controlled feedback loops at every stage of the software development lifecycle, empowering you to embrace DevOps for continuous application improvement, greater agility, and faster business innovation. To learn more, please visit [www.riverbed.com/devops](http://www.riverbed.com/devops).

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“Riverbed gives us a circle of development that helps us to be responsive, pushes us to be proactive, positions us to be predictive, which then allows us to be pre-emptive. This technology will also be a strong backbone for the digital initiatives of other brands in Maersk Group whom we in MGIS support.”

Andy Laurence  
Head of Production Services, Maersk Group

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### Footnotes:

1. RightScale, “2017 State of the Cloud Report”
2. Puppet, “2017 State of DevOps Report”
3. Ibid

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### About Riverbed

Riverbed, at more than \$1 billion in annual revenue, is the leader in application performance infrastructure, delivering the most complete platform for the hybrid enterprise to ensure applications perform as expected, data is always available when needed, and performance issues can be proactively detected and resolved before impacting business performance. Riverbed enables hybrid enterprises to transform application performance into a competitive advantage by maximizing employee productivity and leveraging IT to create new forms of operational agility. Riverbed's 27,000+ customers include 97% of the *Fortune* 100 and 98% of the *Forbes* Global 100. Learn more at [riverbed.com](http://riverbed.com)

The Riverbed logo consists of the word "riverbed" in a lowercase, bold, orange sans-serif font.