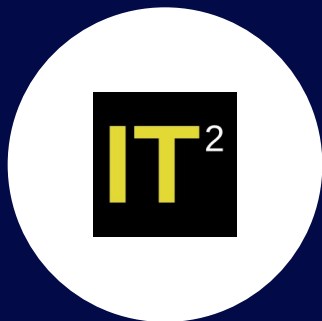**influxdata®**

AN INFLUXDATA CASE STUDY

IT Squared and Riverbed Use InfluxDB to Power APM Visualizations

InfluxDB provides the flexibility to provide data views to multiple stakeholders simultaneously

Company in brief

IT Squared is a full-service information technology service provider that specializes in application modernization and application performance monitoring (APM). The company leverages technical expertise and open source technologies to deliver monitoring and observability solutions that make businesses more effective.

Riverbed helps enterprises optimize their digital experiences. Using two industry-leading solutions – Alluvio by Riverbed for Unified Observability and Riverbed Acceleration – Riverbed transforms data into actionable insights across the entire digital ecosystem and accelerates performance for a seamless digital experience.

Case overview

IT Squared and Riverbed worked jointly with an enterprise IT company that was hosting a large industry event. IT Squared and Riverbed provided monitoring solutions that enabled a wide range of stakeholders to understand the performance of critical applications and processes that directly impacted the event attendees. This solution relies on InfluxDB to store time series data and Grafana to visualize data from InfluxDB. They created a solution that provided high-level overviews of application data for non-experts and built in the ability to quickly and easily drill down into source data for expert analysis and troubleshooting.

Technologies used: Grafana, InfluxDB, Riverbed AppInternals

The technical challenge

On the technical side of things, the challenge was to implement a solution that provided key information to very different audiences. Site reliability engineers (SREs) and other application performance monitoring (APM) specialists needed real-time data and insights to understand the status of, and issues with the application. At the same time, they needed to provide less granular snapshots of application performance for senior and executive leaders who wanted to understand application performance in a general sense, but lacked the technical skills and know-how with commercial or industry-specific application performance management or application performance monitoring tools and applications.

In short, the objectives were to:
- Provide intuitive and easily consumable visibility into application performance.
- Implement advanced time-series analysis enabled by InfluxDB technology.
- Enable application SRE team for success with APM data.
- Provide near real-time, high-level views for executive leadership.

The solution

IT Squared built several applications that included dashboards in Grafana. They use InfluxDB to collect and store raw data from the event company's application. These dashboards pull data from InfluxDB for visualization. The solution can display data from multiple applications at the same time. It included graphs for specific metrics, such as current server load, server time, application performance index (APDEX), and exception trends, for each application.
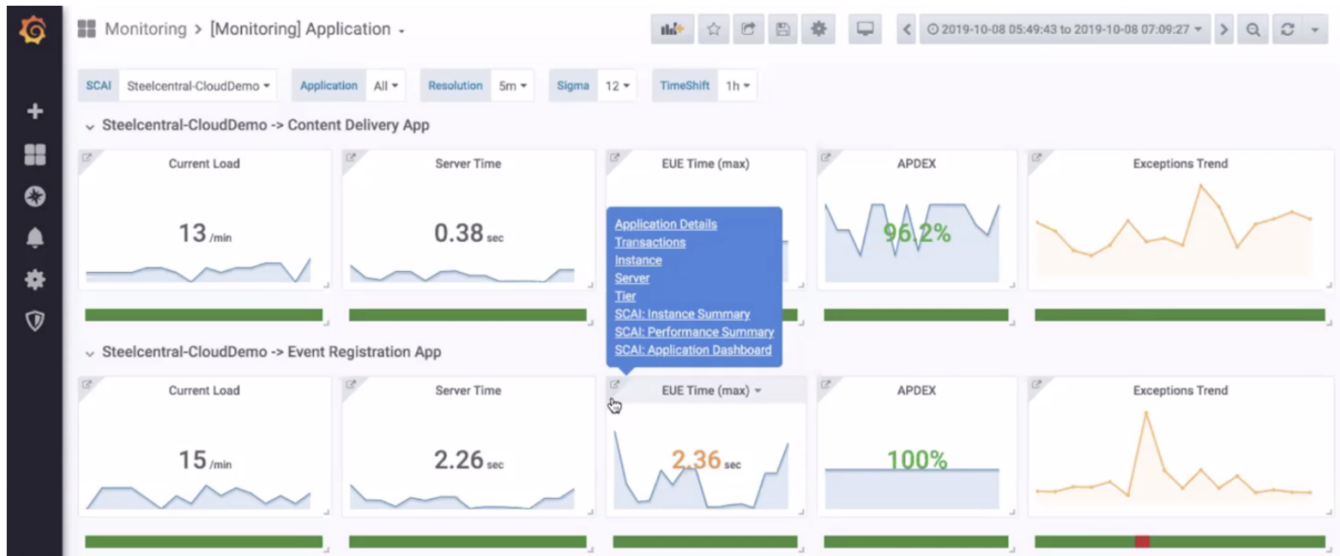
It also had aggregate visualizations for time series analytics, adaptive baselining, and time shift analytics. Users could customize their views of the dashboards, adjusting settings for factors such as resolution, sigma, time shift, and duration.
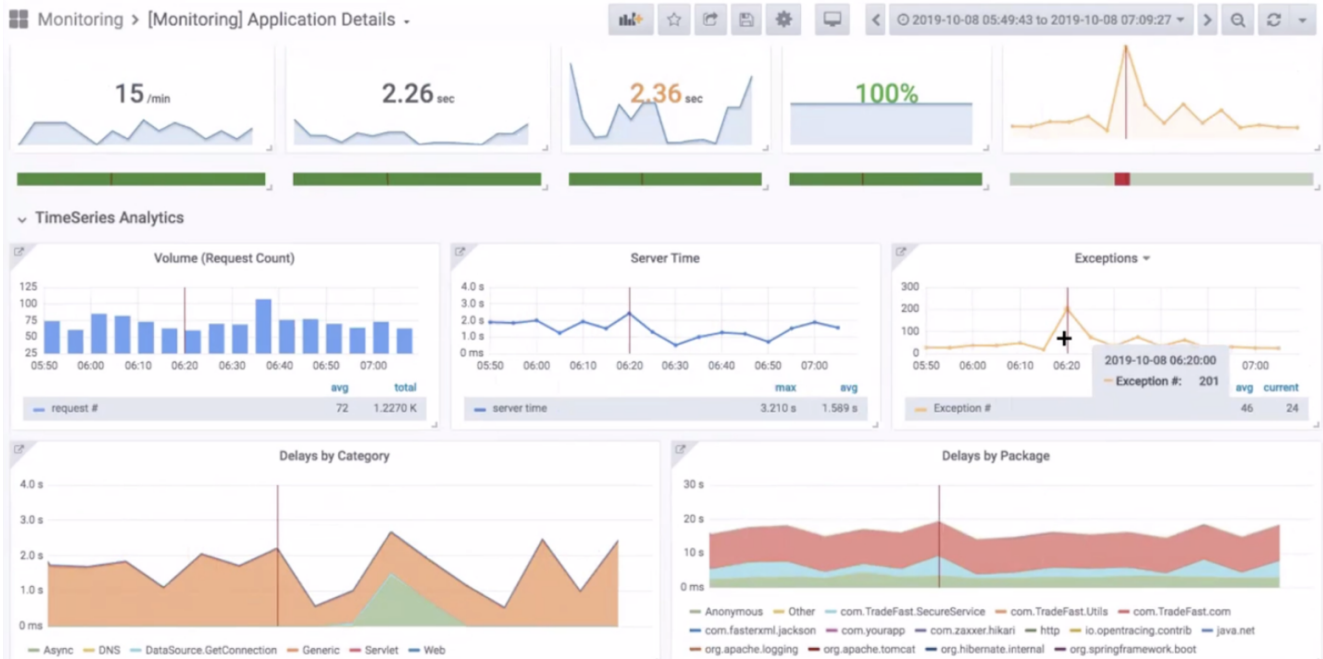
These Grafana dashboards functioned as the first triage stage so that users could identify the root cause and presented the high-level metrics for executive leadership. Clicking on a component within the dashboard allowed SREs to drill down into the data to start troubleshooting issues. To accomplish this, the application connected to Riverbed's AppInternals, an enterprise-grade APM tool. AppInternals is a big data solution that processes and stores large volumes of data about application performance and provides code-level analytics for applications. It allows users to set thresholds for code execution, to classify each transaction, and to identify the severity of deviations from service-level objectives for specific applications or processes within an application.

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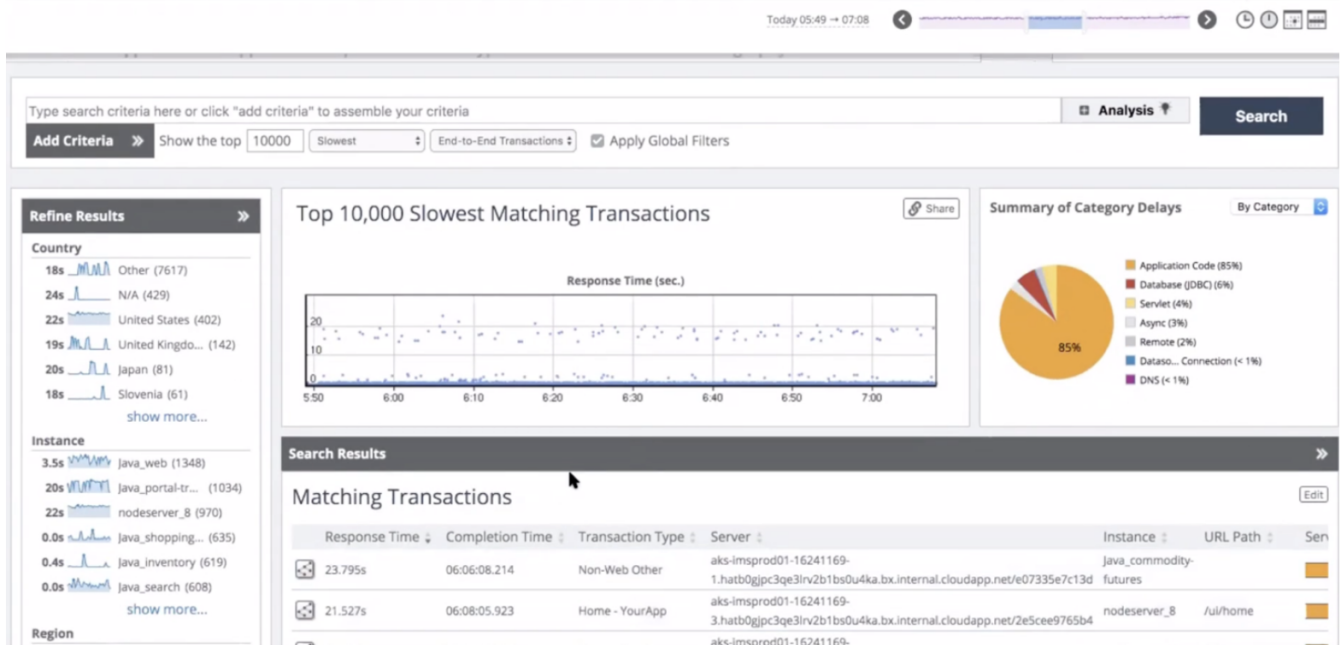
We chose InfluxDB as the most robust technology for time-series database with a very rich analytical engine and a number of operators that allowed us to do things like visualize dashboards and look at the performance of the visualized thresholds in our dashboards and the level of performance.

Alex Kozlov, Riverbed

Results

The application IT Squared built relied on AppInternals on the backend to collect and amend critical application data. However, by itself APM data is not enough. It is so voluminous and provides so much detail, that it makes it difficult for users to find and identify issues, especially when speed is critical. Extracting time series data from the APM tool and pushing that amended data to InfluxDB significantly accelerated the discovery process, aided here by Grafana visualizations.

This solution added an observability layer based on time series data. Linking the dashboards to the APM tooling provided users with the best of both worlds. Once users identified issues, they could easily drill down into the detailed APM data. And because InfluxDB preserved the time context, when SREs drilled down into the data they already knew the window of time when errors occurred, which enabled them to uncover and fix issues more quickly and efficiently.

What's next

Using InfluxDB in conjunction with AppInternals adds a best-in-breed solution for time series to Riverbed's APM tools. The concepts in the solution built by IT Squared and Riverbed can be expanded on a larger scale to consolidate data from multiple applications in one place. Organizations running thousands of microservices and hundreds of applications can consolidate data, metric-backed information, into a single high performing tool such as InfluxDB and create custom dashboards to accelerate troubleshooting, tracing, and other APM tasks.

About InfluxData

InfluxData is the creator of InfluxDB, the leading time series platform. We empower developers and organizations, such as Cisco, IBM, Lego, Siemens, and Tesla, to build transformative IoT, analytics and monitoring applications. Our technology is purpose-built to handle the massive volumes of time-stamped data produced by sensors, applications and computer infrastructure. Easy to start and scale, InfluxDB gives developers time to focus on the features and functionalities that give their apps a competitive edge. InfluxData is headquartered in San Francisco, with a workforce distributed throughout the U.S. and across Europe. For more information, visit influxdata.com and follow us @InfluxDB.

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