zenoss
Own IT.

Streaming Data:
The Key to Application Optimization

In today's application economy, it's critical to ensure key applications—large and small—are optimized for performance, which directly translates to an enhanced customer experience and ultimately customer satisfaction. However, most organizations find that they have the bandwidth and budget to monitor and optimize only a small percentage (often just 5%) of their application portfolio.

This brief examines the business challenges of application performance monitoring and discusses how emerging tools can tip the scales in favor of application owners and centralized IT groups. By utilizing streaming data to dramatically simplify monitoring instrumentation and viewing it in the context of all other data collected from the infrastructure, these new tools cut through the data deluge to deliver actionable, prioritized insights that dramatically accelerate problem resolution and lead to unprecedented efficiency.

The optimization challenge

As enterprises continue their application-driven digital transformation, IT organizations are continuing to evolve from cost center to innovation center. New, agile applications designed to be responsive on virtually any device and with any connectivity combination are the norm, and businesses increasingly consider these applications a competitive advantage and critical part of their intellectual property.

However, the growing number of applications can lead to increased complexity, combining legacy, modern, and cloud-based application workloads into a hybrid environment that can stymie management and inhibit growth. This is exacerbated by the astounding rate at which the number of applications in use is growing: According to a report from the Cloud Security Alliance, the average enterprise had 464 custom apps in 2017,[1] and Gartner has maintained that since 2015, the average large enterprise has had more than 2,000 custom applications in use.[2]

Although there is a broad range of application performance monitoring (APM) tools in the marketplace, they are costly and complex enough that most enterprises can afford to deploy them for only 5% of their most critical applications, which means the other 95% of applications just can't be monitored efficiently or cost effectively.

1 "CSA: Custom Applications Creating New 'Shadow Cloud Computing' Risks," TechTarget, Feb. 13, 2017
2 "Survey Analysis: End-User Experience Monitoring Is the Critical Dimension for Enterprise APM Consumers," Gartner, June 25, 2015

Why optimization matters

However, the need for application optimization grows along with the number of new apps in use. Every business is increasingly reliant on its applications and thus on the availability and performance those applications deliver. Ensuring that applications are running the best they can is unfortunately becoming more difficult, since applications are increasingly abstracted from the specific hardware, networks and operating system software thanks to virtualization, containers and the hybrid cloud architecture enterprises embrace today.

These ephemeral systems make it exponentially more difficult to measure performance, troubleshoot issues and manage the entire application stack. And these performance and optimization issues have a real and immediate impact on customer and user satisfaction—and competitors are just a single click away.

The amount of money that can be lost due to performance hiccups is dramatic. A recent blog post[3] reported that while Amazon found that every 100 milliseconds of latency cost the company 1% in sales in 2007, a 2017 Akamai study[4] showed that every 100-ms delay translated to a 7% drop in sales—a 600% jump in a single decade. Today, time is literally money: Google found an extra half-second of search page generation time resulted in a 20% decrease in traffic,[5] and a Tabb Group report found brokers could lose $4 million in revenue per millisecond if their trading platform is just 5 ms behind the competition.[6]

Roadblocks to optimization

So, what's stopping enterprises from optimizing all their applications? First and foremost, it is the cost and complexity of existing APM tools. APM tools were originally created to debug Java, not to ensure performance in modern applications, and so APM tools generally don't have the flexibility needed to monitor an entire modern application stack. Also, traditional APM tools have limited visibility into the rest of the infrastructure supporting the application environment.

And since only a small percentage—typically 5% to 10% total—of all applications in a given enterprise environment are being monitored by traditional

APM tools, this lack of visibility naturally leads to a lack of assurance that the other 90% of applications are healthy, let alone optimized to deliver peak performance. The bottom line is that traditional APM tools are complex and expensive, which is why most enterprises can monitor only a small percentage of total applications with those existing tools.

Today, time is literally money: Google found an extra half-second of search page generation time resulted in a 20% decrease in traffic,[5]

What enterprises want

What features would the ideal application optimization solution offer?

- A simple and inexpensive way to gain insight into the performance of all applications, not just a small percentage of them.

- The ability to immediately discern the root cause of application performance or availability issues.

- Monitoring that covers the entire application stack, including AI for IT operations (AIOps). This includes an end-to-end view from the lowest hardware levels up to the application itself, utilizing intelligent analytics on all data types—metrics, events, logs, streaming data and model data—to deliver informed, intelligent, actionable information.

- A "single source of the truth" that enables the monitoring of applications in the same context as the underlying infrastructure.

- The ability to combine metrics and data of all types to drive intelligent application monitoring.

- An easy way to link any performance anomalies to business process impacts in real time, as well as the ability to quickly remediate them.

- The ability to integrate optimization with existing ITOps and DevOps tools seamlessly, in an extensible, low-friction, scalable fashion, to support spikes or growth.

3 "Amazon Found Every 100ms of Latency Cost Them 1% in Sales," GigaSpaces, Jan. 20, 2019
4 "Akamai Online Retail Performance Report: Milliseconds Are Critical," Akamai, April 19, 2017
5 "Marissa Mayer at Web 2.0," Geeking with Greg, Nov. 9, 2006.
6 "The Value of a Millisecond: Finding the Optimal Speed of a Trading Infrastructure," Tabb Group, April 8, 2008

Streaming data

The amount and variety of data enterprises collect is staggering. According to a recent Forbes article, 2.5 quintillion bytes of new data are generated every day, and 90% of all the world's data was generated in just the past two years.[7] Thanks to the Internet of Things and the accompanying device explosion, enterprises increasingly rely on new kinds of data, and streaming that data can enable the integration of metrics from any source or application with any frequency into a monitoring platform.

Streaming data can provide real-time monitoring for the full stack, including all cloud-based and on-premises infrastructure, virtual machines, containers, microservices and applications of all shapes and sizes. The addition of streaming data enables richer, deeper and more intelligent APM, and that intelligence translates to greater application optimization and faster problem resolution.

The amount and variety of data enterprises collect is staggering. According to a recent Forbes article, 2.5 quintillion bytes of new data are generated every day, and 90% of all the world's data was generated in just the past two years.[7]

The Zenoss difference

Organizations already rely on Zenoss Cloud to manage everything in today's hybrid data centers. Now, the addition of streaming data to Zenoss Cloud extends its leadership in collection of all data types—model, metrics, events, logs and now streaming data—to deliver the most comprehensive view of end-to-end health and performance of today's and tomorrow's IT environments.

The result is what ITOps, architects and the C-suite already want: an easy-to-install, low-friction, low-cost solution that delivers an overall view of the health and performance of all applications, not just a select few. With support for streaming data, Zenoss helps thousands of organizations:
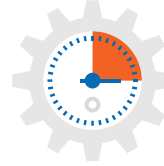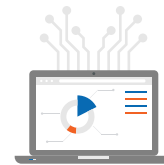
Improve mean time to repair by 85%.

Reduce alert noise and event storms by 99.99%, driving greater data center staff efficiency and freeing up valuable time to solve real problems when they occur.

Increase IT operations monitoring system automation by 70%.

Increase application monitoring coverage by 95%, extending it to virtually all enterprise applications whether on premises or in the cloud.

Next step

Industry experts agree that Zenoss is leading the charge to more intelligent application and service monitoring. Here's how you can learn more.

Click here to find out why Forrester named Zenoss a Wave leader for intelligent application and service monitoring, and *click here* to find out why Gartner recognized Zenoss in the Market Guide for AIOps Platforms.

---

7 "How Much Data Do We Create Every Day? The Mind-Blowing Stats Everyone Should Read," Forbes, May 21, 2018

How Zenoss Helps

Zenoss gives full visibility into IT service relationships and dependencies through real-time modeling that stand-alone AIOps solutions can't provide. Zenoss can augment insufficient log and event data used for AIOps correlation with rich metrics from every system constituting every IT service. As a leader in intelligent application and service monitoring, Zenoss can provide machine learning insights informed by real-time model data, as well as all other data types. This creates an unprecedented capability to visualize incidents, forecast trends and detect issues before the business is impacted.

Zenoss has introduced full-stack monitoring with AIOps. This means eliminating the number one problem AIOps tools have experienced thus far — limited visibility and context due to the lack of cardinality in the data they're analyzing. Zenoss is delivering a new level of AIOps analytics capabilities for all data types, including metrics, dependency data, events and streaming data. This provides unprecedented context and unprecedented acceleration of problem resolution.

For more information on how you can utilize Zenoss Cloud to unify your observability practices across legacy and modern IT environments, contact Zenoss to set up a demo. To learn more about AIOps, download the Gartner Market Guide for AIOps Platforms here.

www.zenoss.com

1-512-687-6854 (direct) | 1-888-936-6770 (toll free)

twitter.com/zenoss

www.linkedin.com/company/zenoss-inc-