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# Ensuring Infrastructure Health with AI-Driven Full-Stack Monitoring

A guide to optimizing infrastructure performance in any environment

**Staying relevant in today's competitive business environment—while getting ready for an ever-more-digital future—has essentially transformed companies of every stripe into technology companies. That trend will only continue to accelerate as applications and online services serve as the core vehicle for engaging customers and growing businesses.**

With so much depending on a business's digital presence, disruptions and downtime can be incredibly costly. In fact, IDC says the average hourly cost of an infrastructure failure is $100,000.[1] Faced with those consequences, keeping everything running is priority one for IT Ops. But, as businesses add new technologies and new vendors as they evolve and grow, there are commonly dozens of different monitoring tools in use throughout an enterprise. Even worse, most businesses have monitoring blind spots where some applications and services components aren't covered at all.

With so many tools adding layers of complexity at scale, combined with the dynamic nature of modern digital environments—built on containers, microservices, hyperconverged infrastructures, multi-cloud and on-prem deployments—it's a huge challenge to pinpoint what's causing any given problem. But that's exactly what companies expect from their IT Ops teams: a smooth-running infrastructure and confidence that business continuity is assured.

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## Service-Centric Monitoring Is the Solution

Overcoming these challenges demands a unified view of all applications and services. This is the only way to identify end-to-end issues before they cause disruptions—and to quickly fix problems as they arise. A service-centric monitoring platform that delivers that kind of visibility lets IT Ops and DevOps teams map out all dependencies and dynamically understand their infrastructure topologies as things change. It also makes it possible to ensure all applications and services are healthy and performing properly, whether on-prem or across all cloud instances.

## Intelligent Monitoring Starts with AI

In attempts to develop a quick-fix solution, a group of technology vendors created tools that they labeled artificial intelligence (AI) for IT Operations ("AIOps"). The idea was to simply send all events from the typical glut of monitoring tools to this AIOps platform, which would leverage machine-learning (ML) algorithms to extract insights and accelerate problem resolution. These deployments have been largely unsuccessful for a number of reasons. The bottom line is ML algorithms need more data and context than these events could provide on their own. So, a new wave of AIOps platforms soon followed. These next-generation AIOps platforms addressed the shortcomings, collecting all data types from every system—metrics, model data, events, logs and streaming data—into a unified platform.

This approach dramatically improved the ability to derive precise insights, faster, by arming ML algorithms with topology data. That data drives the platform's dependency map, modeling end-to-end IT services in real time. As the platform "learns," IT Ops can immediately identify and analyze root causes, with predictive analytics making it possible to prevent issues *before* they force downtime.

## Tools that Work for Everyone

Next-generation AIOps platforms, such as Zenoss, enable IT Ops teams to consolidate the disparate monitoring tools in use across the enterprise into a single platform. These unified platforms greatly reduce management overhead and provide a single view of the truth. With shared visibility into all applications and services, teams and business units can eliminate finger-pointing and immediately identify where any problem resides within the infrastructure or application.

## Unified Monitoring Solves Multiple Problems

Unified monitoring platforms like Zenoss provide the key element of topology—dynamically learning how all systems and applications are connected and mapping out all dependencies. They also adapt to each organization's unique environment, with dynamic performance thresholds that detect anomalies for each application or service. This dramatically improves IT Ops teams' ability to immediately identify root cause issues, while concurrently optimizing infrastructure performance. The Zenoss platform also enables automation for key IT operations management (ITOM) activities, letting human experts focus on more critical issues and innovation.

**These unified platforms greatly reduce management overhead and provide a single view of the truth.**

## Google Cloud Platform: Simplifying Scale

Zenoss became a Google Cloud Platform (GCP) partner because of the platform's proven capabilities around ML. Built on a scalable microservices architecture with inherent chip-level security, GCP makes it possible to quickly build and deploy models, and manage ML workflows and monitor any environment on a massive scale.

## Zenoss: The Only Truly Full-Stack Monitoring Solution

While there are plenty of solutions that claim they offer full-stack monitoring, Zenoss stands alone in the platform's extensibility for monitoring every system within an ecosystem. The platform's serverless, elastic, cloud-based architecture delivers virtually infinite scale, while enabling real-time data streaming and ML-based analytics, massively improving ML's accuracy and effectiveness.

# Analyze Root Causes Immediately

Applying machine learning (ML) to larger sets and broader types of data lets IT Ops resolve issues faster, measurably increasing efficiency. ML also enables teams to prevent disruptions with real-time, dynamic models of end-to-end IT services that let IT Ops maintain awareness of infrastructure-related risks, anywhere across the enterprise.

This makes it possible to isolate problems immediately, improving mean time to resolution (MTTR) and eliminating service outage losses. In fact, platforms like Zenoss can improve MTTR by an incredible 85%. And, with intelligent dashboards and reports, IT Ops, architects and CIOs all gain customizable visibility into the overall health of all applications and services.

# Prevent IT Disruptions

The Zenoss platform collects and analyzes metrics, streaming data, dependency data, events, logs and agent data across complex, modern environments. IT Ops can leverage the high-cardinality data the platform delivers to prevent IT disruptions, employ AI and ML for predictive analytics and evolve from focusing on availability and performance to instead focusing on capacity andoptimization.

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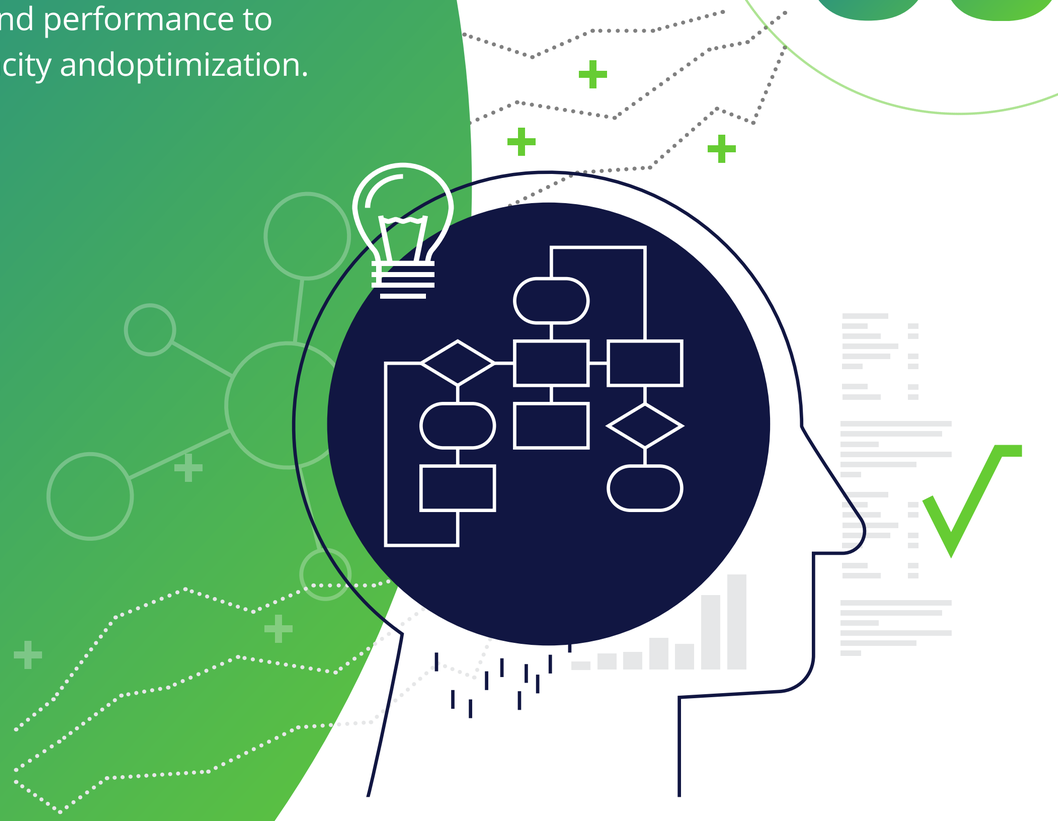


# Optimize Infrastructure Performance

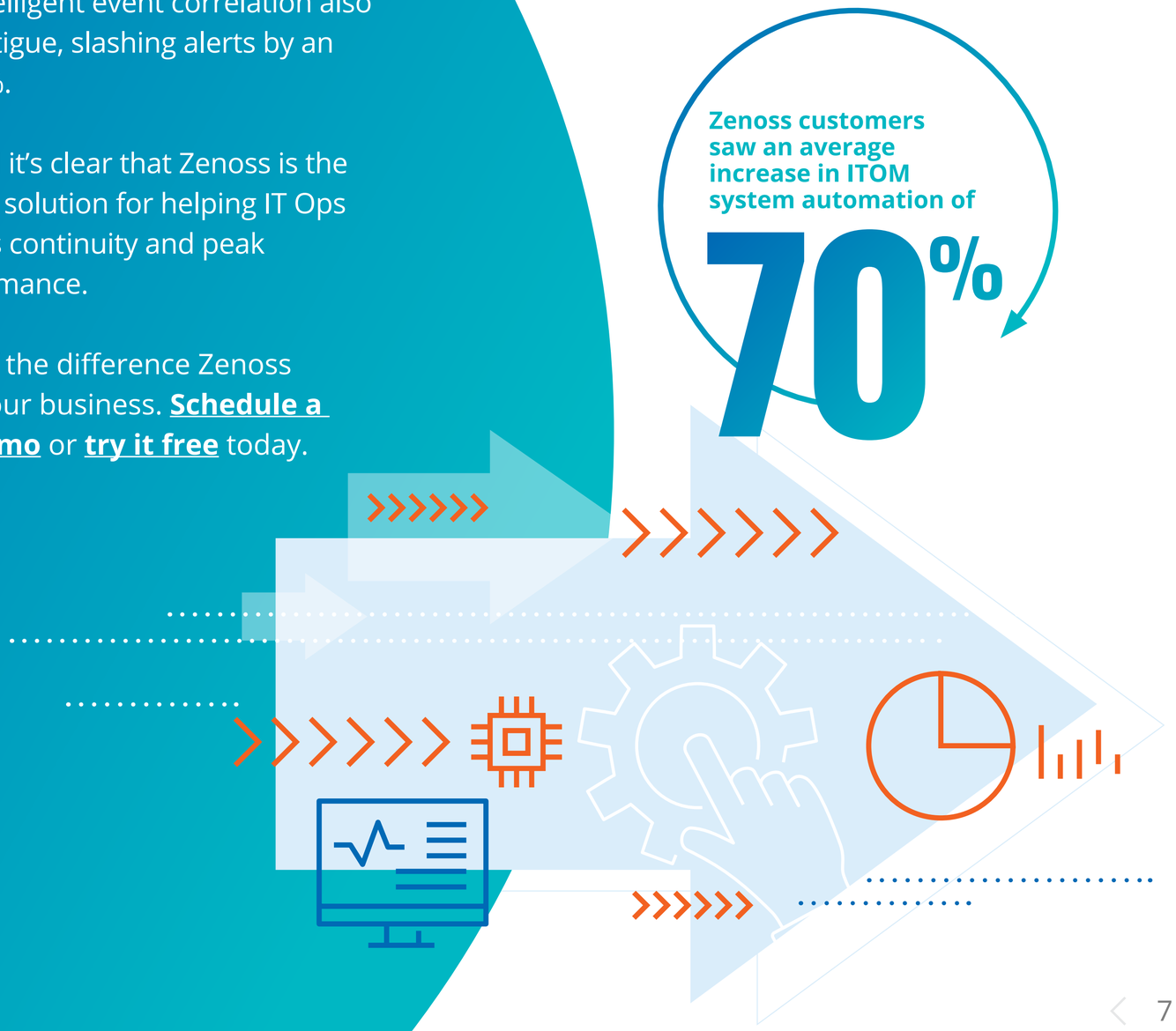
With the Zenoss platform's ability to view performance and anomalies across all on-prem and cloud infrastructures, IT Ops can leverage AIOps insights to predict application health and performance issues. That visibility also lets IT Ops apply consistent monitoring policies and even deliver management as a service for DevOps teams.

# Make Automation Intelligent

Automation is the catalyst for freeing up IT Ops teams to focus on what's important. The Zenoss platform lets IT Ops share key data and insights with other ITOM tools, automating rapid resolution. How much automation is possible? Zenoss customers saw an average increase in ITOM system automation of 70%. That translates into measurable savings in time, resources and dollars. The platform also future-proofs monitoring efforts by enabling them to run at any scale. Intelligent event correlation also reduces alert fatigue, slashing alerts by an incredible 99.9%.

Add it all up and it's clear that Zenoss is the optimal turnkey solution for helping IT Ops ensure business continuity and peak business performance.

See for yourself the difference Zenoss can make for your business. **Schedule a customized demo** or **try it free** today.




[1] IDC Study – The Cost of Downtime



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