

The CIO's Pocket Guide to AIOps

PagerDuty

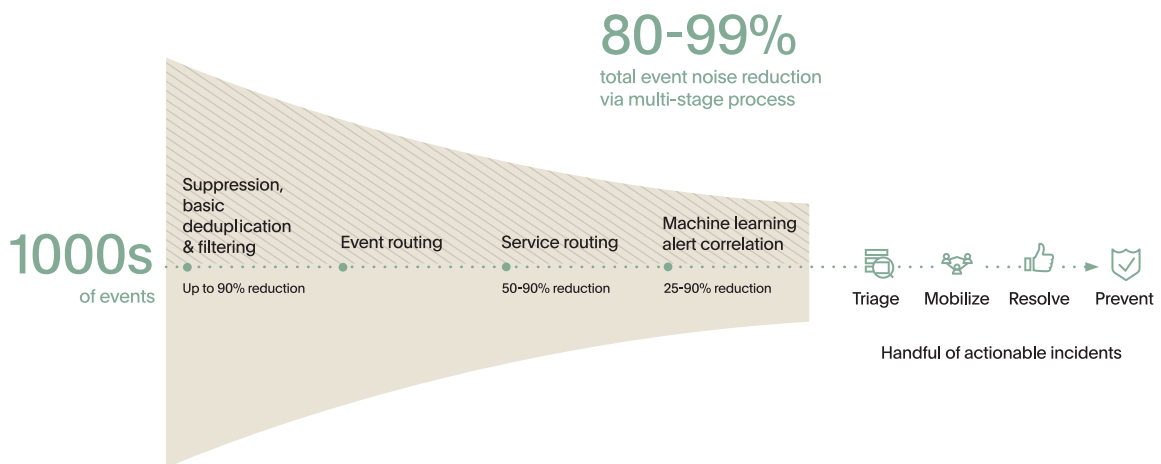
Table of Contents

- What Is AIOps? 3
- Where Can AIOps Make an Impact for IT? 4
- Getting Realistic With AIOps: What It Can and Can't Do..... 5
- Watch Out for Cultural Blind Spots 6
- 4 Key Criteria for AIOps Solutions 8
- Putting AIOps to Work: PagerDuty's Approach. 9

What Is AIOps?

Companies are being pushed harder than ever before to transform the business, to push the needle, to move to digital—faster. Even before the pandemic struck, many IT organizations were already starting to turn to AIOps as a potential investment area. They're hopeful that investing in this new technology will improve operations, provide more data-driven insights, and enable them to scale more efficiently and address issues faster.

What we have today is both an incredible amount of data and also an equally incredible amount of computing power in the cloud to apply to it, in a way that wasn't possible 10 years ago. **Ultimately, AIOps is applying automation rules and machine learning (read: algorithms, math, and statistics) to simplify real-time work for organizations dealing with increasingly large amounts of data.**



Where Can AIOps Make an Impact for IT?

There are two reasons why most IT leaders are interested in AIOps:

- 1. Increase productivity.** They want to do more with the same number of people. Infrastructure and data volumes are growing astronomically, and they don't have the operating budget to get more headcount.
- 2. Minimize impact to the customer experience.** They want to reduce risk of downtime and are hoping that AI will help find the root cause faster and get people collaborating on fixing issues faster.

For real-time operations, AIOps has the potential to create insights across multiple domains to help provide in-depth context around underlying causes of outages. Focused use of automation and machine learning (ML) can help with:

- **Noise reduction.** AIOps can use rules-based and ML-driven correlation to group alerts into related and dependent ones, and reduce false positives and unactionable alerts.
- **Root cause analysis.** AIOps can leverage dependency maps and event enrichment to find the root cause and link any changes to outages in the CI/CD pipeline.
- **Automation and auto-remediation.** AIOps can run automation (runbooks, scripts, custom actions, etc.) to automatically fix known anomalies.
- **Analytics.** Get proactive alerting based on trend analysis and forecasting. Detect anomalies (deviation from historical behavior) and maintain a single pane-of-glass view of all major issues.

Getting Realistic With AIOps: What It Can and Can't Do

With current AIOps solutions, what's most readily achievable is making recommendations about current behaviors that closely resemble past behaviors. For instance:

"Service X is downstream of Service Y. We notice that the majority of the time, incidents on Service Y causes incidents on Service X within 5 minutes. Recommendation: Look at Service Y before Service X."

What's not achievable, however, is the ability to predict / detect behaviors that wildly deviate from past behavior—which is what customers want and what a lot of vendors claim they're able to do.

Know the limitations: While AI is and certainly can be valuable, it's not a silver bullet that will solve all of central IT's problems. There are solutions that some IT leaders are looking for that are simply not easily achievable, and some may not even be possible in the realm of computer science.

Statistics and data about past incidents and practitioner response patterns fed continually into an AI model can help us confidently make assumptions if they are closely related to past incidents.

Watch Out for Cultural Blind Spots

As businesses have increasingly moved to the cloud to capture better scale and agility, technical organizations have been evolving to support more and more applications and microservices in increasingly hybridized environments. This uptick in complexity across technology also means changes to people and their corresponding processes. Teams are increasingly taking on a decentralized form, where lines of business often staff their own technology teams, each with their own culture, velocity, toolchain, etc.

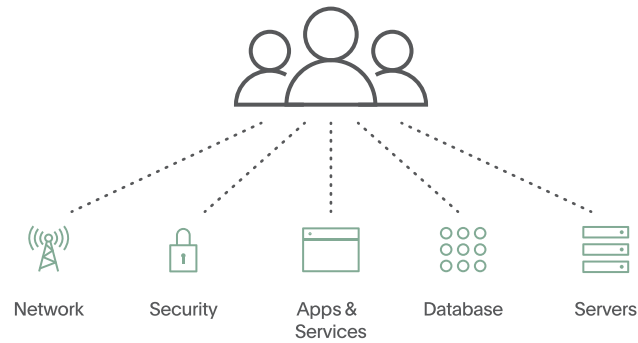
Typically, it's a central IT organization looking to purchase an AIOps solution. However, an AIOps approach that focuses only on the centralized team's needs without consulting distributed teams is at risk of not delivering the intended ROI.

One of the business goals that gets lost in the rush to deliver features for digital businesses is the need for technical teams to collaborate, particularly between centralized and decentralized groups. All the AI-driven noise reduction in the world isn't helpful if teams aren't communicating when things go wrong because they refuse to use each other's tools, so it would be wise to make sure you're considering all parties that the solution is intended for to ensure broad adoption.

With hybrid environments come increasingly decentralized teams, which can create challenges for collaboration between IT and lines of business.

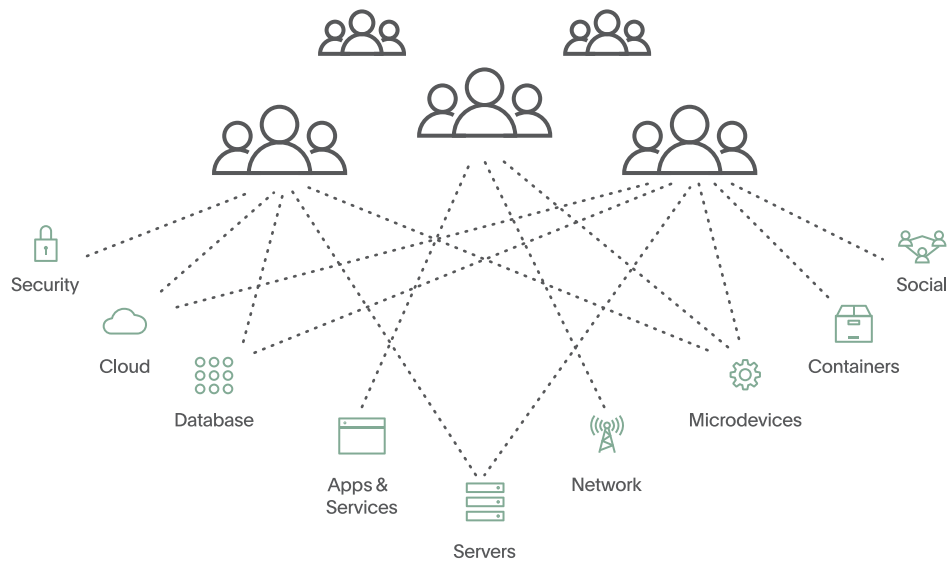
On Prem

Single team



Hybrid

Multiple teams



4 Key Criteria for AIOps Solutions

If you're in the market for AIOps, you should take the time to figure out and be able to clearly articulate the business problem you're trying to solve with AIOps to make sure you are getting what you're hoping for.

Even more importantly, IT leaders should consider how the solution would work for their specific situation, organization, resources, and infrastructure. To do that, they need to ask what's actually required for deployment in order to realistically evaluate how this new technology can make a meaningful impact in the short term for the business.

Here are four key criteria that can help you evaluate AIOps solutions in order to better understand ease of implementation:



Easy to get started. People looking to buy AIOps want something that will start alleviating their problems now, not five years from now. That means it can deliver immediate value and shouldn't require lengthy professional services engagements.



Brings teams together. Any solution must be bought with both centralized teams and decentralized teams (where developers individually own and maintain their code in production) in mind, without forcing either group into unfamiliar tools. Otherwise, it'll just be more IT bloat and the true potential of AIOps won't be met.



Continuous learning. Models should continuously learn from both streaming data and human interactions. Either half of the equation isn't enough to gain full incident context. Responders should be equipped with information by a machine learning model that can analyze both data sets.



Ability to take action. Machine learning shouldn't just give information, it should be actionable. Ideally, machine learning guides a responder towards the next best action for faster resolution. And, if possible automation should complete the action without humans, leaving people to do the value-add work machines can't.

Putting AIOps to Work: PagerDuty's Approach

PagerDuty's AIOps solution aims to democratize data and make sure our machine-learning capabilities are as impactful as possible—and that's by helping individuals on the front lines get the right context, at the right time, so they can ultimately fix critical issues faster and have a better experience doing so.

PagerDuty's AIOps feature set delivers ready-to-use, world-class incident response and management with as little human effort and complexity as possible so that customers can minimize implementation risk, get quicker time to value, and see greater ROI.

How PagerDuty Can Help

An easy-to-use single platform with built-in machine learning capabilities puts control in the hands of subject matter experts to configure both AI and event rules.

No data science knowledge needed. Take advantage of PagerDuty's powerful capabilities without expensive model training or the need to hire data scientists.

Works out of the box and delivers immediate value. Get value in hours or days, rather than months or years. Use results to tune the system, drive business improvements, and repeat.

As part of the PagerDuty® Operations Cloud™, PagerDuty AIOps helps teams:

Reduce noisy incidents: Eliminate incident noise by 87% with the click of a button. Use built-in ML models, or create your own logic.

Accelerate triage time: When an incident strikes, quickly discover the service that is at fault, if the incident has previously occurred, and if a change was the likely cause.

Automate the redundant: Leverage powerful global and service-based Event Orchestration and Automated Actions to gain context and drive the right workflows for a 14% faster resolution.

Visualize what matters: Create a custom dashboard that provides a comprehensive view of your operations posture across services.

Sign up for a free trial

Learn more about PagerDuty for AIOps at
<https://www.pagerduty.com/platform/aiops/>.

About PagerDuty

PagerDuty, Inc. (NYSE:PD) is a leader in digital operations management. In an always-on world, organizations of all sizes trust PagerDuty to help them deliver a perfect digital experience to their customers, every time. Teams use PagerDuty to identify issues and opportunities in real time and bring together the right people to fix problems faster and prevent them in the future. Notable customers including GE, Vodafone, Box, and American Eagle Outfitters.

To learn more and try PagerDuty for free, visit www.pagerduty.com.