

## Innovation Overview

On Apr 11, 2023, PagerDuty (NYSE: \$PD) – “a global leader in digital operations management” – announced the release of PagerDuty AIOps, to deliver end-to-end automation “from event ingestion through auto-remediation, to reliably process high volumes of data and events and resolve incidents quickly.”

‘AIOps’ refers to technologies that apply Artificial, Algorithmic, or Analytical Intelligence to IT Operations – such as using Machine Learning to detect performance anomalies; or using Predictive Analytics to forecast resource constraints. PagerDuty is innovating in a dense AIOps market by leveraging Machine Learning (ML) algorithms to “reduce noisy incidents, accelerate triage time, automate the redundant, and visualize what matters”.

PagerDuty AIOps extends PagerDuty’s Incident Management platform by leveraging ML and AI to assist DevOps and SRE teams with collaborative incident management – from event detection, through triage and troubleshooting, to automated resolution and post-incident review – with 4 key capabilities as follows:

- Noise Reduction – intelligent alert grouping to automatically group similar events using ML-based correlations, explicitly parsed context, time frame duration, or manual designations.
- Triage and Root Cause Analysis – automatically gathering, enriching, and delivering data such as service impact, error frequency, change history, and related incidents to kickstart troubleshooting.
- Automation and Orchestration – a rules-based engine with extensible logic to enrich and normalize event data, forward to service intelligence, integrate with on-call, and respond to ‘known knowns’.
- Visibility – a customizable ‘digital operations’ display, integrated with Service Desk, to correlate incidents, analyze business impacts, and enable collaboration of engineers and on-call responders.

PagerDuty AIOps boasts over 700 native integrations – including with popular DevOps tools like Jira and Atlassian Suite; Monitoring and Service Desk solutions such as Datadog and ServiceNow; collaboration tools such as Slack and Teams; and automation tools like Terraform. This ensures all stakeholders can use the tools they are most comfortable (and productive) with, while staying connected with incident resolution processes.

PagerDuty AIOps also integrates PagerDuty Automation Actions to trigger Runbook Automation or Process Automation workflows, and enables custom workflows with an extensible API, to facilitate orchestrated incident response and enable DevOps ‘feedback loops’ – such as adding new requirements to backlog, updating documentation and runbooks, and/or encoding new automations to implement a new ‘permafex’.

PagerDuty is also leveraging ML/AI to benefit all 18K of its customers, by pre-processing events coming into the platform – c. 20bn events in 2023 – providing contextual data to help SREs solve common incidents faster.

## Customer Impact

PagerDuty AIOps delivers new features allowing customers to navigate problems and incidents with speed and efficiency, especially in more complex environments and applications. When an alert is issued, PagerDuty AIOps gets to work with data analysis and correlation to compress ‘alert storms’ into manageable events, before automatically gathering, correlating, and delivering incident triage data to help identify possible root causes.

Where appropriate (with manual control as needed), automation uses contextual and configurable rules, intelligent routing, and platform automation, empowering even Level 1 responders to triage and resolve known problems with known solutions. Meanwhile, Level 2/3 experts are empowered to share institutional knowledge with relevant stakeholders, but if they need to act themselves, market-leading on-call management capabilities in PagerDuty Operations Cloud can identify and escalate to the right on-call engineer(s), at the right time.

## Strategic Impact

This innovation moves PagerDuty's Operations Cloud strategy forward with an 'automation first' approach and a laser-focus on unique capabilities to empower DevOps, IT Ops, Cloud Ops, and SRE personas. PagerDuty wants customers to "move at event speed", with automation to detect and respond to 'known knowns', freeing up humans to do what the machines cannot, especially in identifying and responding to 'unknown unknowns'.

It also provides a strong ML/AI foundation for future enhancements, like using ML to intelligently identify what automation to apply, when, and how; or create new workflows based on incident context and detected actions, to resolve incidents without any alerts or intervention at all. These future capabilities will further strengthen PagerDuty's event-driven, automation first, and people centric strategy for their Operations Cloud platform.

## Competitive Analysis

Traditional ITSM solutions are failing modern cloud-native DevOps and SRE teams. They simply cannot manage the complexity, volume, and speed of highly distributed multi-cloud applications and services. By contrast, PagerDuty AIOps empowers DevOps & SRE professionals with important ITIL-based discipline, without imposing the heavyweight drag of traditional ITSM processes and ticket-driven systems, instead facilitating DevOps approaches to cloud-native service delivery without abandoning critical oversight and governance.

For key competitors – including Splunk, OpsRamp, BigPanda, and Moogsoft – PagerDuty AIOps represents a significant new competitive challenge. Many vendors lay claim to 'AIOps' functions, but PagerDuty differentiates with integrated capabilities, functional power, ease of use, and extensive automation, aimed specifically at pragmatic IT Ops, Cloud Ops, and SRE personas engaged in incident management and response.

PagerDuty AIOps is not attempting to be all things for all people, yet still offers comprehensive insight and control by integrating data from other tools – APM, RUM, STM, O11Y, etc. – as needed. Where many competitors are distracted by adjacencies like Cybersecurity, Edge, BI, MLOps, or DataOps, PagerDuty focuses on delivering 'best-in-class' collaborative incident response, with a high-function, mission-critical 'Digital Operations' platform.

## Sageable Insight

While many vendors try to sell yet another 'AI-based' monitoring tool, PagerDuty AIOps goes beyond typical 'Systems of Insight' or 'Systems of Engagement' to deliver an operational 'System of Action', enriching events and alerts with expert knowledge, actionable analytics, and automated response workflows. This democratization of incident and response data facilitates more self-service and institutionalizes expert knowledge, to empower every stakeholder to make better data-driven decisions and resolve incidents faster.

While this is a 'black box' model – often cited as a barrier to AI adoption by executive leaders who do not trust inscrutable ML and AI algorithms – users can still see all the workings and outcomes, and can course-correct and re-correlate manually, to deliver simple, powerful, and reliable analytics and automations. Similarly, while many shops are reticent to allow automation to run wild, PagerDuty AIOps facilitates a 'phased trust' approach by focusing on diagnostics and suggested responses, allowing admins and SREs to approve and monitor response and recovery actions manually, before setting them to trigger automatically.

All of which is delivered in a very human way, managing 'known knowns' with machine automation, allowing people to dive into difficult and novel 'unknowns' using tools of choice, aligning processes and skillsets, collaborating on troubleshooting, sharing knowledge, to manage complex cloud service incidents more easily.

With a tight focus on pragmatic, actionable, and intelligent automation for DevOps, IT Ops, and SRE personas engaged in Collaborative Incident Management use cases, PagerDuty AIOps is an impressive innovation that more than hits the mark. Integrating broadly with enterprise tools and processes, and an already impressive portfolio, PagerDuty AIOps is a powerful new 'System of Action' that will help drive collaboration, productivity, and efficiency for DevOps, IT Ops, and SRE teams, empowering stakeholders at all levels to deliver higher availability and better experiences for both internal users and external customers.