Get closer to self-healing enterprise IT operations management with AI-Powered Service Operations

Improve predictability, observability, and real-time decision-making
Every CIO would like to have a self-healing enterprise. We’re not there yet, but predictive AIOps gets us closer than ever before.

Self-healing enterprises are always-on, running 24/7. They use AI-driven IT operations management (ITOM) solutions to predictively detect lead signals for potential issues, pinpoint those issues with precision, isolate root cause, and resolve them automatically. The goal is to avoid issues before they turn into problems because self-healing systems have the foresight to predict where issues might occur in the future.

Self-healing has long been the unattainable goal of enterprise CIOs, but the goal is ever nearer thanks to predictive AIOps. Now, AIOps puts predictability, observability, and real-time decision making in the hands of your IT operations team. This ensures they can fix unanticipated problems before users across the enterprise are impacted.

Today CIOs are strategically responsible for delivering digital products and driving innovation, and at the same time their teams still oversee hundreds or thousands of applications, resources, and data sources. Implementing AIOps in this environment requires a carefully planned strategy and patience, but the result is truly predictive IT moving you along the path to achieving self-healing enterprise IT.

What is AIOps:
Artificial Intelligence for IT Operations (AIOps) is the use of machine learning (ML) and artificial intelligence (AI) to automate and manage the digital complexity of modern IT operations processes.

Self-healing enterprises defined:
Self-healing enterprises are always-on, running 24/7. They use AI-driven IT operations management (ITOM) solutions to predictively detect lead signals for potential issues, pinpoint those issues with precision, isolate root cause, and resolve them automatically. The goal is to avoid issues before they turn into problems because self-healing systems have the foresight to predict where issues might occur in the future.
AIOps is not instantaneous—it takes an AI-Powered Service Operations approach

For AIOps to successfully predict the next service degradation or outage, it takes more than the flip of a switch. AIOps requires a platform approach that applies ML to IT operations functions and data, including human-generated incidents and knowledge articles, as well as machine-generated data, such as events and metrics from servers and applications, and deployment changes from your CI/CD pipelines. The reality is that machines, like people, need time to learn.

For example, identifying weekly seasonality requires at least a couple of weeks of observation. And just like your team getting feedback from your customers and employees on the quality of their IT experiences, feedback from your IT operations team allows AIOps to identify whether what it learned was useful and the reasons why. Given time and feedback, AIOps will provide your IT operations more accurate insights, allowing better decisions to be made.
How AIOps works

AIOps applies extensive automation and statistical analysis to events, performance metrics, logs, and trace data collected from IT operations monitoring tools to learn behaviors, identify anomalies, correlate alerts, reduce noise, and pinpoint root causes. When it comes to prediction, AIOps deals with probabilities—receiving a notification that an issue currently unfolding has a high confidence of leading to an outage is realistic. A service-aware Configuration Management Database (CMDB) significantly increases the accuracy of the insights AIOps can provide your team.
AI-Powered Service Operations

AI-Powered Service Operations brings together employee requests with machine data and uses AI to find answers that significantly transform how you work.

**ITSM provides key data to AIOps**

IT service management (ITSM) is the system of engagement between the business, your employees, and your IT team. It provides AIOps with critical information such as change requests, incidents, problems, and knowledge articles. Change requests can be correlated with alerts to help identify changes that led to a system failure. Past incidents may be used to identify an issue experienced across multiple instances of the same application. Problems with known errors documented as knowledge articles can be automatically presented to IT as recommended solutions.

**ITSM coordinates responses to issues AI has identified**

In addition to providing information, ITSM incorporates AI to coordinate responses to detected issues. For example, when ServiceNow IT Service Management customers use Virtual Agents (chatbots) for incident detection, they are seeing that they can reduce anywhere from 10% to 20% of their top requests by automating responses via chatbots. This improves IT efficiency by more than 50%.

When you bring AI, ITSM, and ITOM together on a single platform—you not only transform IT but you ensure your customer and user experiences are the best they can be because you prevent issues before they ever get to your users.
Map your infrastructure

For many IT teams, it’s a huge challenge to identify the impact of infrastructure changes to applications and services. Just imagine how a small update in the Apache server can impact payroll services upstream. ServiceNow Service Mapping allows teams to view these changes in real time. Furthermore, it enables them to identify anomalies at an exact place in the infrastructure and take appropriate action.

While there are a variety of service mapping options, intelligent traffic-based mapping uses ML to identify significant service-level relationships from traffic flow data while filtering out distracting noise. It can be used to extend top-down maps or add relationships to tag-based maps.
Barriers to achieving a self-healing enterprise: too many siloed tools

Achieving a self-healing enterprise is still a pipe dream for many organizations because their IT operations teams use siloed monitoring tools, constantly confronting a never-ending stream of events in different formats.

In fact, a recent survey of IT executives, *Intelligent Approaches to Resilient IT Operations and AIOps*, reveals that 56% of respondents use more than three tools to view and manage IT operations and services.

How many tools and systems do you use to view and manage IT operations and services?

- 1: 11%
- 2 to 3: 33%
- 4 to 5: 23%
- 6 or more: 33%

Most (56%) of respondents say they use more than three tools to view and manage IT operations and services.

Optimizing IT operations through automation

After you reach a steady state in AIOps and are delivering on your original outcomes, you can start thinking about optimizing your operations through automation.

With knowledge of past failures presented to the IT team you can:

- Analyze root causes
- Determine how issues were resolved
- Identify potential candidates for automation

Your team can be armed not just with knowledge that predictive AIOps reveals by using natural language processing, but also automated corrective actions to remediate issues.

And, for well-understood issues with highly reliable automated actions, many IT teams are moving toward using playbooks with curated actions to help speed response. These curated playbooks are easily deployable using workflow designer tools.
Maximize the power of predictive AIOps

ServiceNow Predictive AIOps offers powerful capabilities to:

- Analyze and create insights via observability data such as events, metrics, traces, and logs
- Correlate asset, incidents, changes, problems, vulnerability, configuration data
- Automate corrective actions

The extensive functionality reduces integrations and the associated technical debt for maintaining them.

Learn more about ServiceNow Predictive AIOps [here](#).

Building AIOps bench strength

As with anything that requires more than one person, it’s important to make sure your IT operations team develops AIOps skills. They should become familiar with what AI and ML bring to the table when attempting to keep your business running at today’s digital speed and move the team to a proactive stance.

You should not be required to hire a new stable of data scientists to implement AIOps. Stakeholders from various departments most impacted by technology infrastructure will likely be excited to participate when they learn about how AIOps reduces the amount of downtime they experience, the improvement in business efficiency that results, and delighted customers.

You’ll also work with distributed teams such as DevOps and SREs who are constantly looking to drive service uptime. AIOps can be a useful tool to find issues in realtime across the CI/CD pipeline and fix them before services are impacted.
Getting started

You may have a vision for AIOps in your organization and be eager to get started, but don’t make the mistake of attempting to do everything in a one massive undertaking.

Instead, start small. Set reasonable goals so your team has the chance to:

1. Learn from your accomplishments
2. Validate and fine-tune your approach
3. Acquire and build on capabilities
4. Achieve all-important quick wins for your organization

The benefits of AIOps

AIOps benefits extend to all areas of your business. Take DevOps. Suppose software recently released by your DevOps team results in an issue detected by AIOps. AIOps can automatically notify the DevOps team, and recommend an emergency change to roll back the software to a previously known good release. Each step and configuration change are recorded and tracked in the CMDB.

The self-healing enterprise realized

ServiceNow AIOps allows organizations to get closer to making self-healing enterprises a reality by connecting AIOps to business processes outside of IT. This extends benefits to areas including—but not limited to—customer service management, DevOps, SecOps, risk and governance, HR, and operations.
Now it’s your turn to investigate AIOps.
ServiceNow has helped thousands of organizations successfully transform their IT operations management, and we can help you get closer to achieving true self-healing enterprise IT operations.

Read this solution brief to explore how AIOps helps to enable proactive IT operations management
Read this article to further explore AIOps
Visit here to learn more about ServiceNow AIOps

About ServiceNow
ServiceNow provides the smarter way to workflow. Our cloud-based platform and solutions deliver digital workflows that create great experiences and unlock productivity to approximately 6,900 enterprise customers worldwide, including almost 80% of the Fortune 500. Visit us at ServiceNow.com.

SOURCES
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