



2021
State of
AIOps
Study

About the Author

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When you see this symbol, click to reveal a corresponding graphic

Source for all exhibits is ZK Research 2021 AIOps Study

Introduction

The rise of digital transformation and the subsequent explosion of data have enabled companies to innovate and serve stakeholders at breakneck speed. Yet while the data age has been great for the bottom line, the technological infrastructure required to store, analyze and manage this data has put enormous stress on IT.

The strain on IT was exacerbated by the COVID-19 pandemic and the subsequent worldwide shift to remote working, as IT was charged with helping to maintain business-as-usual operations. This Herculean undertaking spawned increasingly complex network architectures and systems too onerous to manage. It also became harder for IT teams to respond in a timely fashion, which significantly increased the potential for human error. To combat time-consuming tasks, cut down on errors and deliver better, more efficient results, companies must invest in network automation—specifically, artificial intelligence for IT operations (AIOps).

Although fully automated networks are still being developed and are not yet turnkey solutions, all the AI technologies needed to create them are already here in the form of AIOps. Thus, it will only be a matter of a few years before they arrive. AIOps serves as a critical stepping-stone to full autonomy, enabling companies to automate part of their network by using big data and machine learning to monitor IT performance and then predict and prevent events.

ZK Research conducted a survey to understand whether enterprises are using, considering

Methodology

In August 2021, ZK Research conducted an online survey sponsored by Masergy that included 510 enterprise IT executives. All respondents were either using, considering using or interested in using AIOps; worked in the United States; and worked for companies with annual revenue between \$250 million and \$10 billion. Industries represented were technology (24%), manufacturing (18%), retail (16%), healthcare (15%), finance (15%), media and communications (6%) and professional services (6%). Nearly three-quarters of respondents were decision makers, with close to another quarter being one of many decision makers. Most of these individuals held IT/tech positions, and a quarter were in senior management.

using or interested in using AIOps technology for their network and security operations. We then asked the following questions: How are companies selecting their AIOps provider? What deployment model are they choosing? What investments are being made to prepare IT networks for AIOps? And how is this affecting IT teams?

Key Insights

Adoption

- **99% of organizations believe** it is important or very important for AIOps to manage network and cloud application performance.
- **Nearly two-thirds of organizations** currently use AIOps tools for network and security operations.
- Current usage of AIOps tools is high (**64%**).
- **43% of organizations** are interested in or currently using AIOps tools to gain IT operational efficiencies/productivity, while other drivers revolve around security threats and the need for faster response and threat identification.

Measurement

- **64% of organizations** that currently use AIOps tools measure the success of their AIOps investment through IT operational efficiencies/productivity gains.

Automation

- **37% of organizations** expect to have a fully automated network within one to two

years, and 49% expect to do so within three to five years.

- **Only 3%** of organizations are not confident that AIOps can be trusted to act alone.

Industries

- **Retail is the top industry** currently using AIOps tools at 76%, followed by finance (68%) and then manufacturing (66%).

Who Is Currently Using AIOps?

Of those surveyed, 64% of companies across industries are using AIOps tools, and at least 50% in each industry have adopted AIOps. Given the relative newness of true AIOps solutions, this number is surprisingly high. Based on one-on-one interviews ZK Research has conducted with IT professionals, we believe many customers have adopted upgraded legacy solutions that vendors label as AIOps but are not true AI-based products. This presents a “good news/bad news” scenario for adoption. Although it’s clear that interest in AIOps is at an all-time high, after adopting it, many businesses will not realize the benefits unless they are using true AI-based products. This is a word of caution to buyers to conduct the necessary due diligence and ensure the product they purchase is AI based.

When it comes to AIOps adoption by industry, retail leads—with more than three-quarters of companies currently using AIOps tools and close to 20% currently evaluating them

EXHIBIT 1
Retail Leads
AIOps Adoption

EXHIBIT 2
Low-Revenue
Companies Are
Most Likely to
Evaluate AIOps

(Exhibit 1). Meanwhile, the healthcare industry—known for its slow deployment of new technologies—has the lowest AIOps tool adoption at just 50%. Despite that figure, it's encouraging to see that healthcare organizations have the highest percentage of respondents (41%) who are currently evaluating tools.

The media and communications industry has a high percentage of current adoption (63%) but also has the highest percentage of respondents (23%) still at the exploratory stage, which indicates that they have not committed to AIOps just yet. Interestingly, the technology industry is just above healthcare with a 59% adoption rate, whereas finance and manufacturing—other industries that are traditionally slower to move the needle in utilizing cutting-edge technology—came in at 68% and 66%, respectively.

Although an organization's revenue does not seem to be a huge driver of its AIOps use, it is encouraging to see that low-revenue companies (\$250 million to \$499 million) have the lowest adoption at 56% yet are more likely to be evaluating tools than high-revenue companies (Exhibit 2). The middle-revenue group has the highest combined current use of AIOps (70%) and those in the process of evaluation (21%). Interestingly, the high-revenue companies (\$1 billion to \$4.9 billion) have the least combined current AIOps utilization (60%) and those in the process of evaluation (22%), with the highest percentage still in the exploratory phase (17%).

If AIOps can be used to enable continuous insights across all IT operations, where exactly

EXHIBIT 3

Almost Two-Thirds of Companies Use AIOps for Network and Security Operations

EXHIBIT 4

IT Spends Almost Half Its Time Monitoring Performance and Troubleshooting

EXHIBIT 5

More than One-Third of Companies Plan to Use AIOps Tools Across IT

EXHIBIT 6

Increased IT Operational Efficiencies and Productivity Gains Drive Interest in AIOps

are companies focusing their efforts? According to the survey, almost two-thirds of companies currently use AIOps for network and security operations, with just over half of companies using it across all IT environments (Exhibit 3).

IT teams spend much of their time ensuring optimal uptime with as little disruption as possible. These focused priorities are reflected in our research, where respondents answered that on average, 49% of their IT department's time is spent on monitoring application performance, and 48% is spent on network troubleshooting (Exhibit 4).

Considering the rate of adoption by industry, the way in which each industry is planning to use AIOps is very interesting (Exhibit 5). More than a third of companies in each industry plan to use AIOps tools across IT as a whole, with organizations choosing IT operational efficiency and productivity as their primary reason (Exhibit 6). Finance and technology are the most consistent in their plans to use AIOps tools across all network operations, security operations and IT, while 57% of media and communications companies plan to use AIOps tools in their security operations—far more than any industry. And given the rise in security threats facing corporations, the ability to detect and respond to those threats quickly is among the top three primary reasons organizations are interested in or currently using AIOps tools.

How to Choose an AIOps Provider and Deployment Strategy

According to Gartner, “organizations that automate more than 70% of their network change activities will reduce the number of outages by at least 50% and deliver services to their

EXHIBIT 7

The Majority of Respondents Think AIOps Is Important for Managing Network and Cloud Application Performance

EXHIBIT 8

Features Are the Top Criterion When Selecting AIOps Tools

business constituents 50% faster.” With such significant impact to customer delivery and the bottom line, choosing a provider can be a difficult decision.

Our survey delivers some interesting data that organizations should consider when choosing an AIOps provider. 99% of companies in our study believe it is important for AIOps to manage network and cloud application performance (Exhibit 7). The fact that the overwhelming majority of respondents tie AIOps to cloud and network should not be a surprise given that most businesses—particularly since the pandemic began—rely heavily on the cloud for applications and the network to connect remote workers.

Cloud and network expertise is a critical selection criterion when choosing an AIOps solution provider. Also, the vendor needs a platform that can correlate network information with cloud performance to shift to a predictive model. For example, a business may be using Cisco Webex for collaboration, and the platform could be performing well at deployment time. However, as the company adds people, bandwidth utilization increases, and this could impact video quality. An AIOps provider with deep expertise in networking and Webex could project growth and predict when problems will start to occur, enabling the business to correct the issue before it affects operations.

So, what other factors should companies consider when selecting AIOps providers and tools? A majority of respondents (65%) chose their AIOps provider based on features including analytics, predictions, recommendations and integration (Exhibit 8). Across industries,

EXHIBIT 9

Reach and Breadth Drive the Selection of AIOps Tools

EXHIBIT 10

Most Media/Communications and Professional Services Companies Will Deploy and Manage AIOps Themselves

features were the top decision-making factor for retail, manufacturing, technology, and media and communications. This was followed by the tools' reach and breadth in addressing both the network and security (60%), which was the top choice for those in healthcare, finance and professional services (Exhibit 9).

When it comes to deployment model, the majority of professional services (63%), media and communications (60%), and retail (52%) organizations will manage AIOps themselves (Exhibit 10). All others will use a managed or co-managed service, or a combination of the two, potentially due to limited resources and workers. The high percentage of companies that will use a fully managed service or a combination of self-management and managed services indicates that respondents understand the complexity of deploying and maintaining an AI-based system.

ZK Research believes most businesses will eventually defer to a managed service provider. Historically, network engineering teams preferred to self-manage, but the environment has grown increasingly complex to the point where self-managing AIOps will be difficult for all but the most technically advanced companies. Also, AIOps solutions require continual retraining, and the majority of companies may not have the expertise for this.

How to Avoid Challenges with AIOps Solutions

When we asked about the biggest AIOps-related challenges facing respondents' organiza-

EXHIBIT 11

Half of Respondents Highlight System Fragmentation as the Biggest AIOps Challenge

EXHIBIT 12

Respondents See Value in AIOps

EXHIBIT 13

Cloud Application Usage Analytics Is the Top AIOps Network Use Case

tions, the top answers included elimination of system fragmentation (50%), staffing support (47%) and training for AI models (47%) (Exhibit 11). All of these can be significant barriers to adoption and warrant the use of a managed service to overcome them. One of the more interesting survey findings is the high number of respondents citing system fragmentation as a challenge with AIOps, as IT has been facing this problem for years. With AIOps, it's critical to consolidate data sets. In data sciences, there's an axiom that states "good data leads to good insights," but the IT industry is plagued with data silos, which lead to partial insights. System fragmentation only exacerbates the problem.

Respondents seem to understand the value of using AIOps, as 77% agree that the combination of AIOps, SD-WAN and SASE provides a single source of data for AI (Exhibit 12). 79% also agree that this combination leads to more accurate insights across security and networking, while 77% agree that these insights are best delivered by a single platform.

Use Cases: Network and Security

Exactly how organizations are implementing AIOps across their network and security operations varies. The top three use cases that organizations are most interested in for their network operations are cloud application usage analytics (35%), monitoring and recommending optimal balancing for QoS queues (33%), and recommending improvements for application performance (31%) (Exhibit 13).

EXHIBIT 14
**Monitoring and
Recommending
Optimal Balancing
for QoS Queues Is a
Top AIOps Use Case**

However, digging into those numbers, only healthcare respondents selected cloud application usage analytics as their top choice, with manufacturing, technology and professional services all opting for monitoring and recommending optimal balancing for network quality of service (QoS) queues (Exhibit 14). From there, the majority of respondents in finance chose recommending improvements for application performance, while retail chose shifting to a predictive operations model, and media and communications respondents were most interested in task automation.

Although our survey doesn't dig into the "why" of these responses, the vertical responses do follow industry trends. For example, healthcare has shifted to telemedicine, driving the need for cloud analytics. Similarly, in financial services, poor application performance means lost revenue, and in retail, seasonal buying patterns need to be understood to maximize sales.

Organizations are more aligned on their usage of AIOps for their security network, with a majority looking for faster security threat detection (54%) and faster security threat response (46%).

Investment and Metrics

At the time of this survey, almost three-quarters (73%) of respondents had invested in modernizing their network, virtualization and software-defined principles in preparation for

EXHIBIT 15

Companies Are Making Investments to Prepare for AIOps

EXHIBIT 16

Organizations Invest in Network Modernization and Cloud Migration to Prepare for AIOps

EXHIBIT 17

AIOps Success Is Measured Mainly by IT Operational Efficiencies and Productivity Gains

AIOps (Exhibit 15 and Exhibit 16). This is consistent across all representative industries. More than half of all respondents were investing in cloud migration (67%) and AI model training (61%), while only 1% were not investing in anything to prepare for AIOps.

Network modernization is done via software-defined solutions, where the control and management of the network is decoupled from the underlying hardware. This makes it much easier to extract network data and centralize it for AIOps. Without moving to a software-defined network or software-defined WAN, businesses would need to write custom code to extract the data, normalize it and then aggregate it.

Currently, organizations are measuring the success of their AIOps investments based on their IT operational efficiencies and productivity gains (64%) (Exhibit 17). However, in the future, the way respondents measure success will focus more on reducing the number of security incidents (38%) and less (25%) on IT operational efficiencies and productivity gains.

Conclusion: Next Steps in AIOps

Autonomous networking solutions are just a few years away, but companies can take steps now to arrive at the milestone of autonomy sooner. These include adopting AIOps as a way of moving toward intent-based networking and fully automated networks. Among our survey respondents, 85% view AIOps as a path to an intent-based network, and 84% view it as a path

EXHIBIT 18
**AIOps Is Seen as a
Path to an Intent-Based
and Fully Automated
Network**

EXHIBIT 19
**Most Organizations
Trust AIOps Tools to
Act Alone**

to fully automated networks (Exhibit 18).

Although network automation historically has been met with trepidation and a lack of trust, the need for it today surpasses any fear. When asked about the confidence they have in trusting AIOps tools to act on their own recommendations and create fully automated systems, 97% of our respondents were confident they can be trusted (Exhibit 19).

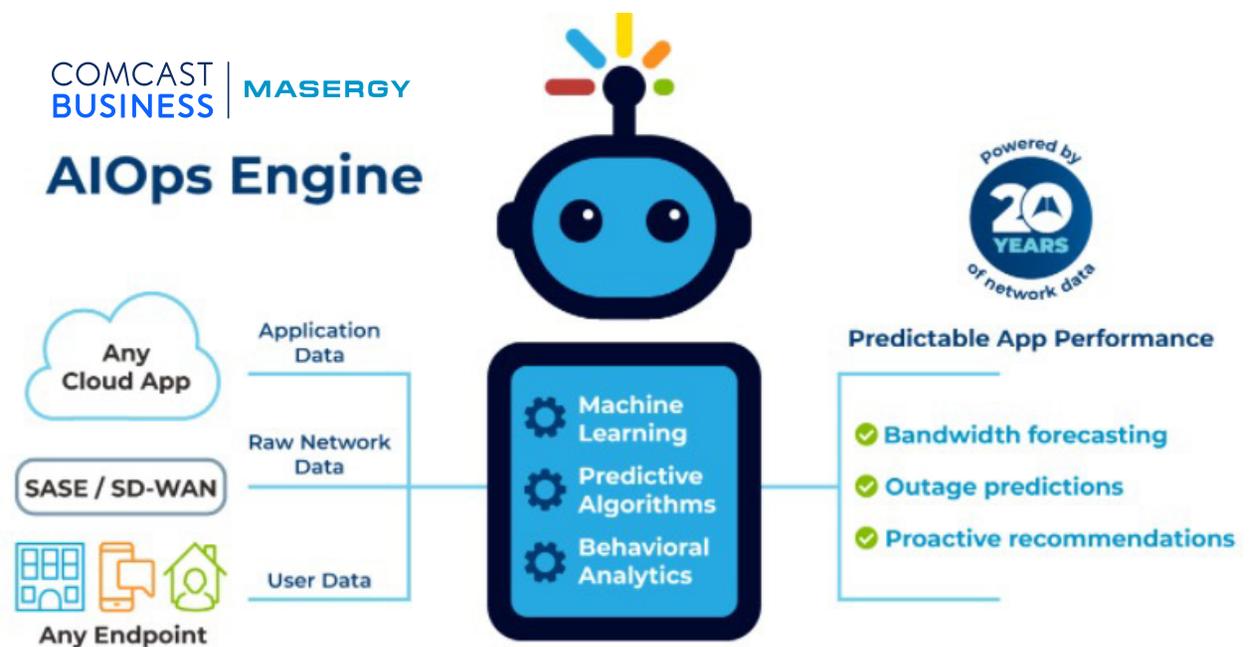
With 86% of respondents reporting they expect to have a fully automated network within five years, it seems AIOps will be a central part of network automation and monitoring. Therefore, companies must make investments in their networks and in training and hiring the staff required to run, monitor and react to the information gleaned from AIOps tools.

Masergy: AIOps + SASE in One Solution

In today's work-from-anywhere business environment, the network, security, and AI must all work together in one cloud platform, and Masergy has been uniting them into one service strategy for years. When you purchase Masergy's SASE and SD-WAN solutions, AIOps capabilities come standard, giving you the power to predict and prevent outages across the network and cloud applications.

The SD-WAN Industry's First AIOps Integrated with Network and Cloud Applications

Masergy AIOps is the industry's first AI-based network intelligence service. It automatically evaluates network configurations and application bandwidth usage, helping to improve your network and cloud application performance. Think of it as your dedicated virtual engineer—a trusted advisor working 24/7 to proactively optimize your global network.



About Masergy

Masergy, a Comcast Business company, is the software-defined network and cloud platform for the digital enterprise. Recognized as the pioneer in software-defined networking, Masergy enables unrivaled, secure application performance across the network and the cloud with Managed SD-WAN, UCaaS, CCaaS and Managed Security solutions. Industry leading SLAs coupled with an unparalleled customer experience enable global enterprises to achieve business outcomes with certainty. Learn more and follow us on our blog [Transforming Enterprise IT](#), [Twitter @Masergy](#), [LinkedIn](#), and [Facebook](#).



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