theCUBE Research White Paper

Measuring Your AIOps Maturity:

A Self-Assessment Guide

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ABSTRACT: Modern IT environments are highly distributed, so there is increasing dependence on the network to achieve business objectives. However, these dynamic and distributed environments are also more complex to manage efficiently. Increasingly, AI-driven operations (AIOps) are emerging as a solution to overcome challenges; while AI adoption in networking is advancing, organizations are at different stages of maturity with AIOps, ranging from manual remediation based on AI insights to fully automated closed-loop systems. Despite the potential benefits of AIOps, enterprises must overcome technological, cultural, and operational barriers for successful deployment. To accelerate the journey to a self-driving network, organizations must assess their current AIOps maturity and evaluate the maturity of potential AIOps providers. As AI continues to evolve, self-driving networks are set to define the future, empowering enterprises with intelligent, automated, and highly efficient networking solutions.

Organizations are adopting AI for network environments

Organizations recognize the value of AI and continue to allocate budget for AI technologies. ETR data[1] highlights that AI/ML technologies have been the top adoption area for enterprises for almost two years. While the industry hype around AI picked up steam with commercially available Generative AI LLMs like ChatGPT, Perplexity, Anthropic, etc., technology vendors have been developing AI solutions for over a decade.

The consumerization of generative AI has been extremely helpful in raising AI adoption to a board-level discussion. It is now widely recognized that AI technologies will be required for organizations to remain competitive across almost all industries. From an IT operations perspective, AI technologies drive operational efficiency and productivity. Due to the increasingly complex and distributed modern IT environments, AI is now a must-have technology for network environments. However, not all organizations and network AI vendors are at the same level of maturity in either deploying or developing AI capabilities. To overcome the challenges of modern IT and application environments, organizations must learn from organizations with more mature AI deployments and leverage technology vendors with more mature AI solutions to ensure the network is an enabler and not an impediment.

[1] Source: ETR Technology Spending Intentions Survey July 23 to April 25

What is driving AI Adoption in the network

As previously mentioned, modern IT environments are more complex. Because of their distributed nature, eight out of ten organizations (80%) report the network is more or much more complex than just two years ago.

Drilling down into the causes of that network complexity, respondents[2] indicated the top factors were increased traffic- which will only get worse with new GenAI workloads, a distributed network – that supports employees and applications across data centers, clouds, campus, branch and edge locations, multiple different management tools -requiring swivel chair management, and slowing problem resolution, and the requirement to support highly dynamic modern applications – which are highly dynamic and require granular visibility, as seen in Figure 1 below.

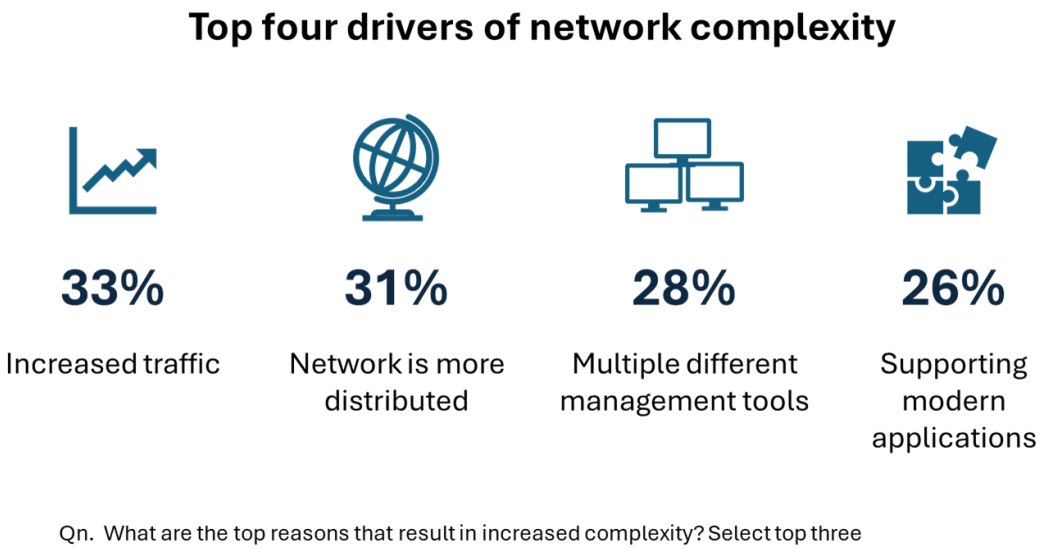

Figure 1

AI priorities

To overcome many of these challenges, AI-driven operations or AIOps is rapidly emerging as a solution for network operations teams. Some of the top priorities include consolidating the number of network vendors and leveraging unified management tools (cloud-based if possible), modernizing and improving the performance of data center networks to handle the increased traffic. Another top priority is leveraging AI/ML technologies.

Of the three, leveraging AI/ML technologies will have the most impact because it enables organizations to move from reactive to proactive operations. By applying intelligent algorithms to vast amounts of network data, enterprises can detect anomalies faster, predict potential failures, and optimize performance in real time. AI/ML reduces human error, improves decision-making, and supports more agile, resilient, and self-healing network infrastructures. As networks grow more complex and demands for uptime and security increase, AI/ML is becoming indispensable for delivering intelligent, automated, and scalable network operations. The key is deploying AI technology across the end-to-end network environment.

[2] Ibid – all the rest of the research cited in the paper is derived from this research report

Where are organizations in their AIOps journey

In a recent research study, we asked organizations how they leveraged AIOps in their network environments. While the vast majority (80%) of organizations had started their AIOps journey, there were distinct adoption patterns as the operations teams became more comfortable with the technology. Today, over quarters of teams have become more comfortable with the technology. Today, over three-quarters of organizations still rely on some form of manual intervention when using AI to validate the technology against their own knowledge base. See Figure 2.

However, it is equally clear that organizations will eventually need to have AI tied to fully automated remediations. In the survey, almost a quarter (24%) of organizations have validated AI technology and are taking advantage of fully automated capabilities. For the majority of organizations (54%), AI technology is leveraged to create intelligent alerts and recommendations. Then, based on the recommendations, this group will fix the problem either manually or manually trigger an automation. It is important to note that the shift to fully automated will not be a binary decision, meaning organizations will want to leverage automated responses for specific issues that they have manually remediated multiple times, then built and manually triggered automated responses multiple times before enabling fully automated for those specific responses.

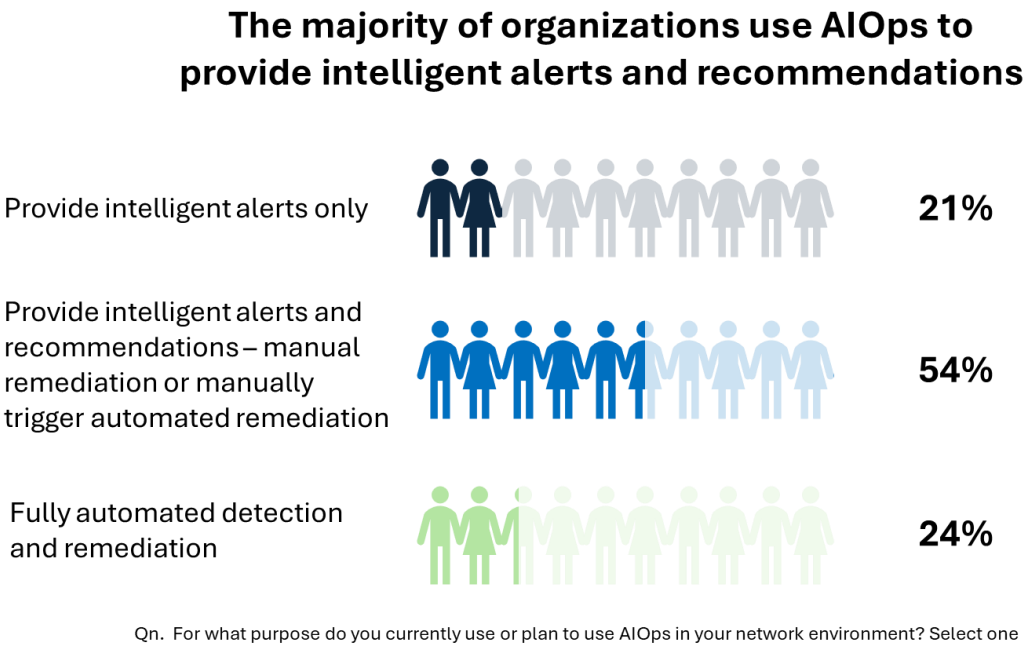

Figure 2

Benefits of a mature AIOps environment

AIOps deployments are proliferating and maturing as the technology vendors continue developing solutions. The research asked organizations what benefits were achieved by leveraging AIOps. Organizations reported increased operational efficiencies, faster issue remediation, and quicker issue identification. These were followed by using AI, which created more time to work on strategic initiatives. See Figure 3

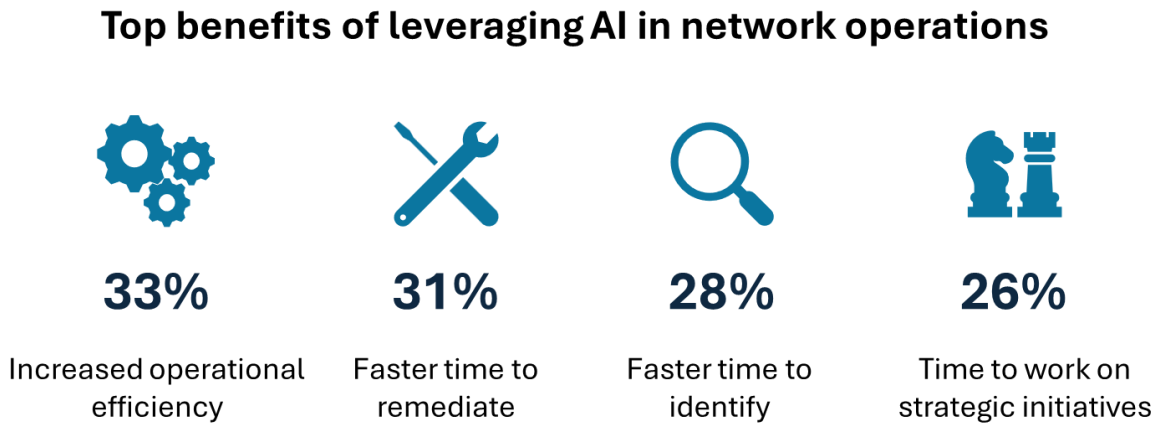

Figure 3

However, when we looked at this data by the length of time used (how long organizations had AIOps deployed), we see the longest users of AI technology cited having more time to work on strategic initiatives as the top benefit. At the same time, those who are just getting started said their top benefit was faster remediation times. Regardless of the time in use, organizations reported that increased operational efficiency was the second most cited benefit.

This is relevant as it demonstrates that with greater use and maturity, AIOps will drive greater business benefits to an organization. By leveraging AIOps, organizations can create a self-driving network that frees up the network admins and architects to work on initiatives that drive business value and not spend all their time just keeping the network up.

AIOps is now considered a valuable technology for any organization, with virtually all organizations (97%) citing that they are open to evaluating new network vendors if they have superior AIOps technology. This is a bold statement considering the cost and time to change vendors, but it highlights the importance of this technology. AI-driven automation is poised to address significant pain points in network management:

What challenges do organizations face when deploying AIOps

Despite recognizing that AIOps will be essential for the network environment, almost nine out of ten (88%) face difficulty adopting AIOps solutions. The top three challenges include the lack of a single AI engine, the time to comfort with AI technology and cultural resistance from the operations teams. See Figure 4

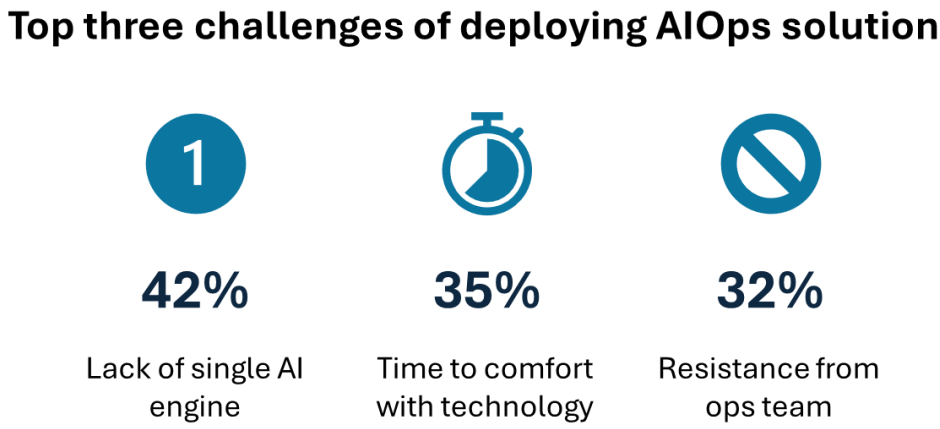

Figure 4.

The biggest impediment reported is the lack of a single AI engine to cover the entire network environment. Many network vendors offer domain-specific AI solutions that lack a comprehensive or extensible framework. This often results in fragmented AI interfaces across different parts of the network, increasing operational complexity and slowing down issue resolution. Without a unified and scalable AI architecture that covers Data Center networks, Campus and Branch, and the WAN, organizations may find it challenging to achieve the full benefits of automation, limiting the overall effectiveness and return on investment of their AIOps initiatives.

Another barrier is the time required for teams to become comfortable with AI-driven automation. Before trusting intelligent alerts and automated remediation, operations teams need time to validate new technologies. This includes manually verifying the outcomes recommended by the AI, ensuring the logic is sound, and the results are reliable. Gaining this trust is essential before fully delegating critical tasks to automated systems.

Lastly, organizations must be aware that cultural change often presents a more significant challenge than technological change. Executive leadership must for the technology and AI teams, and operations teams must overcome their familiarity with existing workflows and resist shifting to new AI-enabled processes. This hesitation—rooted in familiarity, fear of job displacement, or lack of trust in automation—can slow adoption and undermine the potential impact of AIOps initiatives.

Where is your organization on the AI journey? A self-assessment

The first step to take on the AIOps journey is the most important one. Organizations must commit to procuring and deploying AIOps technology for the network environment. This is not a question of if but only when; more significantly, the longer organizations wait, the greater their disadvantage, especially as environments become more distributed and thus reliant on the network domain.

Evaluating the maturity of your network environment

Organizations need to assess their network environment by asking the following questions

- Problematic areas: Organizations must evaluate their current network environments and determine the most problematic areas. Is it in the data center, public clouds, a campus environment, or an edge location? Note this could vary significantly based on the industry and its specific network requirements.
- Domain coverage: Are the current network management solutions based on a single or multiple domains? Organizations must determine how information from different domains could feed a single AIOps framework for an end-to-end network. This process should incorporate any future plans for organic and inorganic growth.
- Current capabilities: Is the network operations team proactive or reactive? How does that impact the business and experiences for customers and employees? How much time does your network team spend keeping the lights on versus working on strategic initiatives?
- Cloud-based platform approach: Does your networking management solution leverage a cloud-based management platform across all domains, or is it on-premises at each location?
- Automation: Is your organization currently using any network automation? Could it benefit from being integrated with AIOps to accelerate problem identification?

Evaluating the maturity of your AI environment

Organizations need to assess their AI environment by asking the following questions.

- Network automation: To what degree are your network operations automated today? Do you leverage any intent-based networking, or is every change a manual effort? Are all lifecycle management changes done manually?
- AI usage: Is AI being used for any network functions? Anomaly detection, remediation, or provisioning? How long did it take to become comfortable with the technology and trust its results? Is your team able to provide feedback?
- Domain coverage of AI: What network domains currently have AI deployed, and which are planned? This should include data centers, AI data centers, public clouds, WAN, campus, branch, and edge, as well as wired and wireless. Can your AI integrate with 3rd Party tools like ITSM or workflow management?
- Security: Does your AI solution integrate with security tools? How quickly can you change security policies and network enforcement?
- Business outcomes: Does your organization track metrics for operational efficiency? To what extent has AI reduced the time to identify and remediate issues? What is the ratio of time spent on keeping the lights on vs working on strategic initiatives?

Evaluating the maturity of your AIOps provider

Organizations should assess their AIOps providers based on the following criteria:

- Product development timeline: How long has the solution been evolving? While vendors will accelerate development to ride the AI wave, many current solutions have been a decade or more in the making. Ask how long this AIOps solution has been in development. How much data has been used to train the models? Does the vendor have a track record of delivering cloud-based management? (one of the key enablers to obtaining anonymized data)
- Solution efficacy: Can the vendor provide stats on the model's accuracy? What steps are they taking to improve the model? What measurable impact does the solution have? Are there readily available use cases to review or references that you can use to validate claims? Can they tie into multiple LLMs
- Domain coverage: How many network domains can the AI solution operate? What network domains do they provide coverage for?

- Continuous improvement: Has the vendor implemented a closed-loop feedback system for human involvement in AI learning and improvement? Is it more than just a thumbs up or down, providing an opportunity to deliver valuable feedback? What internal processes or innovations are used or developed to enhance AI capabilities?
- Ecosystem integration: How well does the solution integrate with existing infrastructure and third-party tools? Are there available APIs and a roadmap for Agentic AI?

Our ANGLE

As organizations continue to deploy modern IT environments distributed across data centers, public clouds, and edge locations, it is important to note that the network will play an increasingly important role. Unfortunately, these network environments are also very complex and challenging to manage. Organizations need to leverage AIOps to regain network control and focus on empowering the business.

As a result, organizations have varying stages of AIOps maturity. However, regardless of where your organization is, AIOps can deliver significant benefits to the business, with those just starting out shifting from reactive to proactive and dramatically reducing the time to find and fix issues and the more mature organizations realizing significant business gains by having the ability to work on more strategic initiatives.

The most important part of the journey is the first step. Organizations must evaluate potential AIOps solutions and determine which solution can create a self-driving network that can enable the business. Working with mature AIOps solutions can accelerate the time to value and help overcome technical or cultural barriers.

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