November 2025

The State of Network Operations, 2026

AI AND ITS EFFECT ON ENTERPRISE NETOPS

dimensional research

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Introduction

This report reviews global surveys conducted in 2025 and 2024 by Dimensional Research with more than 1350 IT professionals with networking, operations, and cloud responsibilities. This paper examines how AI is impacting the network as well as the evolving demands on network operations to support modern IT environments that include cloud and internet usage. The research also investigates prolific visibility and observability issues, key operational challenges, inadequate tools, and the adoption of AI-enabled network operational solutions.

Executive Summary

This research finds that 99% of companies have a cloud strategy and the same magnitude are adopting AI, with less than half saying their network is currently ready for AI. Network professionals shared that network congestion, latency, and lack of visibility threaten AI success. Yet 87% share that internet and cloud environments are increasingly creating network blind spots. 95% lack visibility into network segments, led by public cloud environments. That same 95% state they need more information from their ISPs. Network operational focus on visibility is vital, because that information can optimize current performance and provide early indicators of network issues which can be resolved proactively, increasing the speed and efficiency of issue resolution, as well as tracking and understanding the user experience.

To understand what is inhibiting networking teams, participants stated that ever evolving security requirements and reliance on other teams, such as development or DevOps, are key challenges. But many day-to-day and tactical tasks remain big issues also, such as interacting with ISPs and 3rd parties, insufficient budget, lack of expertise, and poor networking tools. One approach to manage these challenges is the growing use of 3rd party solutions for network operations that help support global operations and supply missing expertise and personnel. Network automation is also being utilized for policy application, updates, upgrades, self-service, compliance enforcements, traffic shaping, and more. This can scale organizations, but only 37% have mature automation practices. To improve network resiliency, tools need to provide key functionality, such as intelligent traffic shaping, predicting network issues, more informative help tickets, and AI-powered triage assistance.

92% of companies are planning to use AI-enabled networking solutions to improve visibility and resiliency, and to help mitigate resources and expertise shortages. Already more than 2 out of 10 companies have AI-enable networking solutions deployed, though 71% don't fully trust AI to make network operations decisions, so many are keeping a watchful eye. With the exceptionally complex network environments of today, the need to support AI initiatives with reliable high bandwidth, and low latency networks, most teams today lack the visibility and resources to be successful. This is driving reliance on third parties, but AI-enabled network operation tools look like an ideal opportunity to help teams scale with increased visibility and efficiency.

Key Findings

- **Growing Network Complexity and AI Use Still Lack Visibility**
  - 99% have cloud strategies led by hybrid approaches
  - Less than half of networks are ready for AI
  - Network congestion, lack of visibility, and latency lead network issues that can sabotage AI success
  - Networking operations require comprehensive visibility to support AI operations

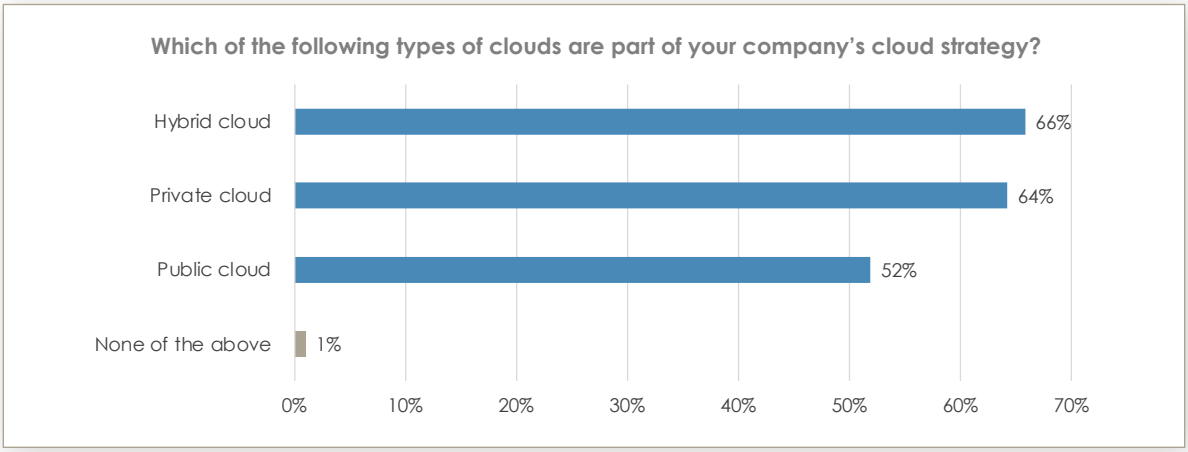
- **Network Teams Lack Information and Visibility, Inhibiting Performance While Increasing 3rd Party Reliance**
  - 87% share the internet and cloud environments create network blind spots
  - 95% lack visibility into network segments, led by public cloud environments
  - 95% need more ISP Information
  - Internet and public cloud visibility needed for optimization, predicting performance, troubleshooting, and user experiences
  - Network teams still struggling with ISPs and 3rd parties, insufficient budget, lack of expertise, and poor networking solutions

- **AI-Enabled Network Operations Tools Adoption Has Begun**
  - 76% rely on third parties for network operations
  - 70% are still in the early phases of network automation
  - 92% of companies are planning to use AI-enabled networking solutions, but only 23% are deployed

Detailed Findings

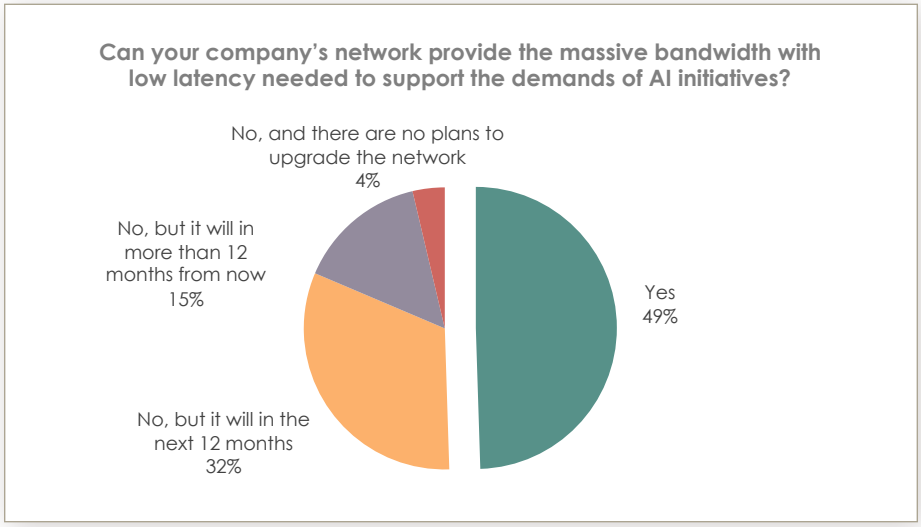
The Cloud is Part of Nearly Every IT Environment

Cloud use has become ubiquitous for modern IT environments and while hybrid clouds are used by 66% of companies, only 1% say they are not using one of the three typical cloud types. This deductively means that 99% of companies are using proven cloud strategy. But does this pervasive cloud use, especially of public clouds, create additional challenges for network connectivity and performance?

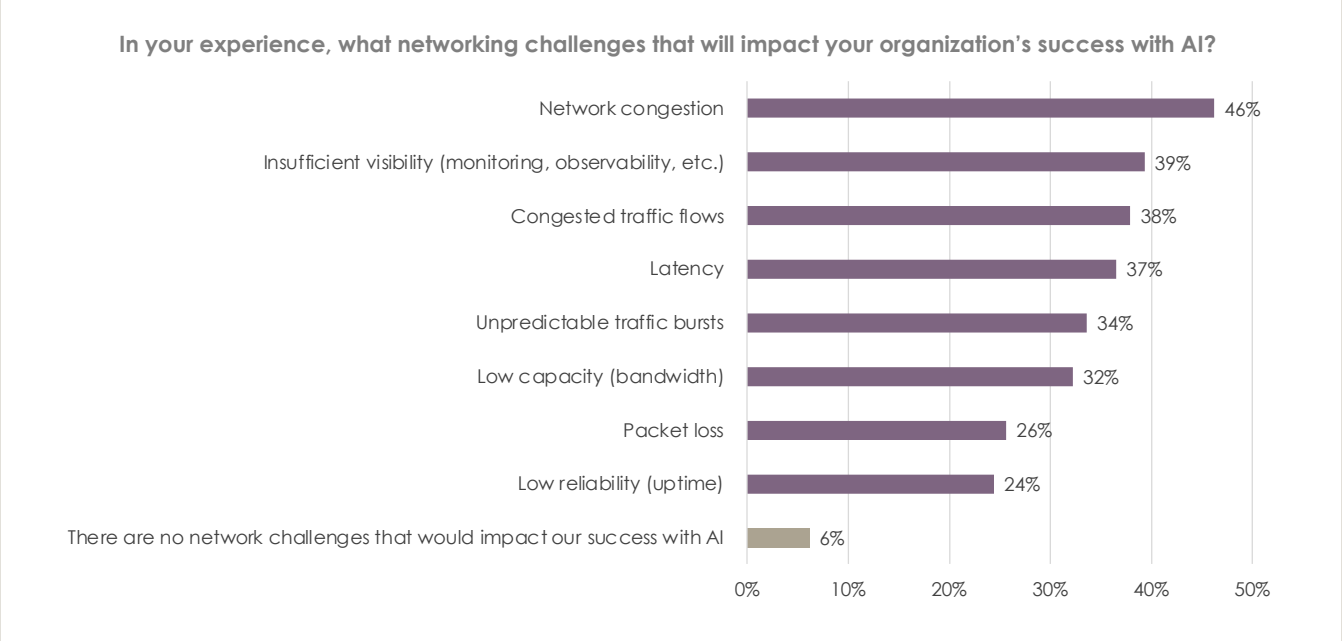


Network Performance Translates to AI Success but Most are Not Ready

In addition to complex cloud operations, the adoption of AI has been rampant. The use of AI requires access to large amounts of data and processing power and thus directly places demands on networks. This research finds that just less than half (49%) of technology professionals state their network is ready for the high bandwidth and lower latency AI requires. However, the data shows 47% are aware of the issue and actively working to upgrade their network for AI requirements.

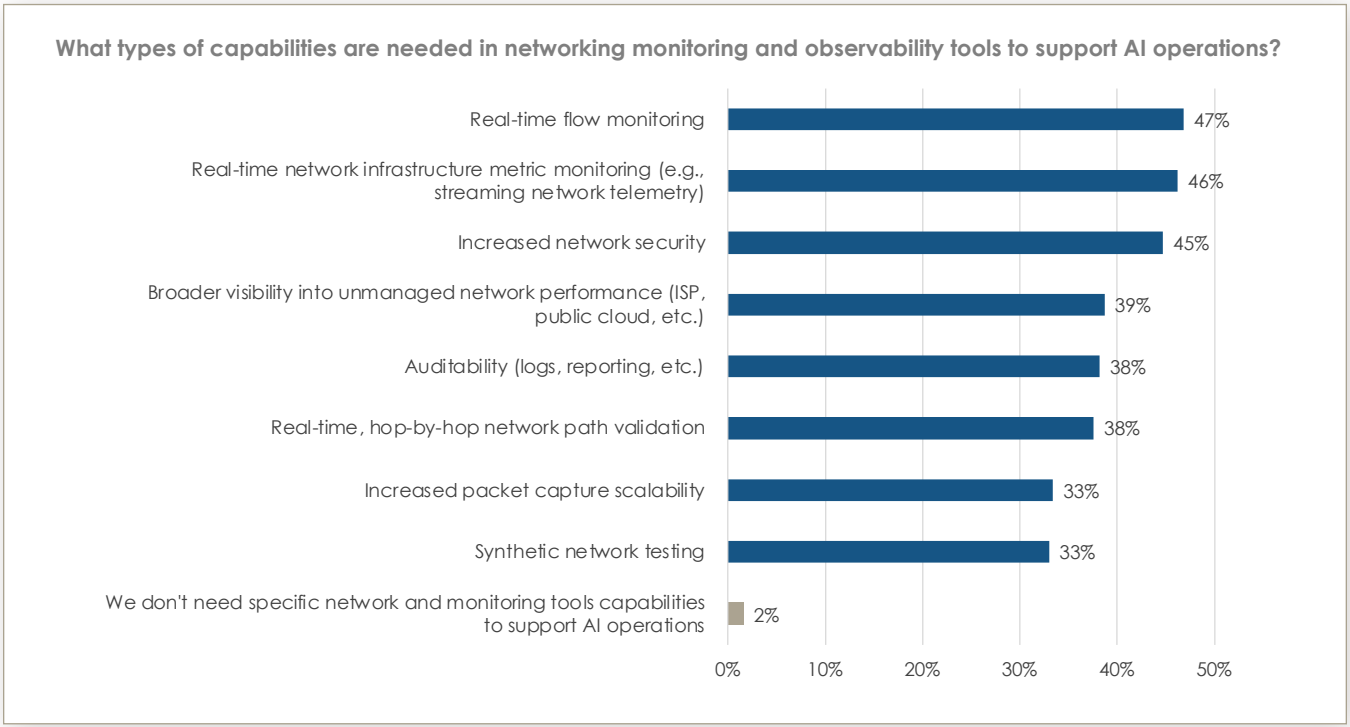


To understand how the network can affect AI operations, participants were asked which networking challenges are impacting AI. Leading all issues is network congestion (46%) which impacts the speed and efficiency of AI. Insufficient visibility (39%) takes the second spot, followed by congested traffic flows (38%) and latency (37%). These top four clearly impact AI operations and are likely driving the majority who say their network isn't ready for AI today. Only 6% stated network challenges don't translate to AI issues, meaning 96% established the correlation that fast and reliable network operation is directly tied to AI success.



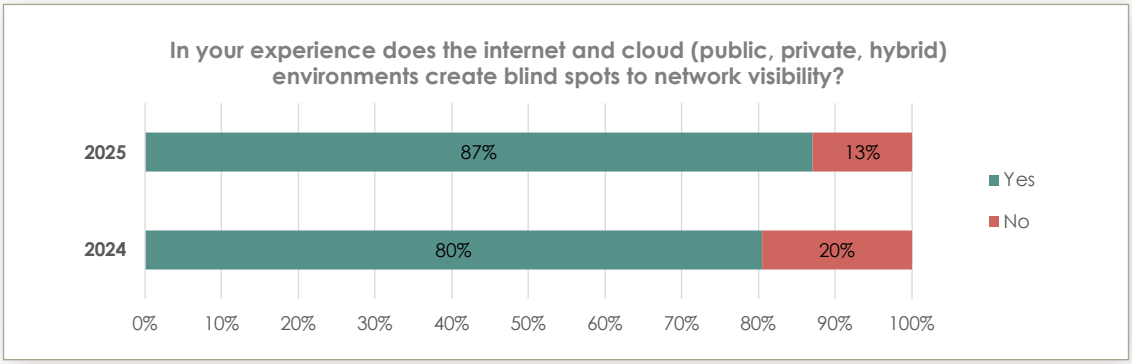
Networking Operations Require Comprehensive Visibility to Support AI

Given visibility was the second leading network challenge impacting AI, the research sought to understand explicitly which types of visibility are needed. The top three answers are only separated by one percentage point each, led by real-time flow monitoring (47%), real-time infrastructure monitoring (46%), and increased network security (45%). All three indicate the dynamic nature of AI and the risk it creates. Next is a drill down on visibility into external unmanaged networks (39%) such as an ISP or cloud, revealing AI solutions require access to external resources. Auditability and real-time network path monitoring tied at 38%. And perhaps the most compelling data point is the 98% who selected at least one network visibility and observability capability is needed, demonstrating that supporting AI utilization is putting new and different demands on network operations.



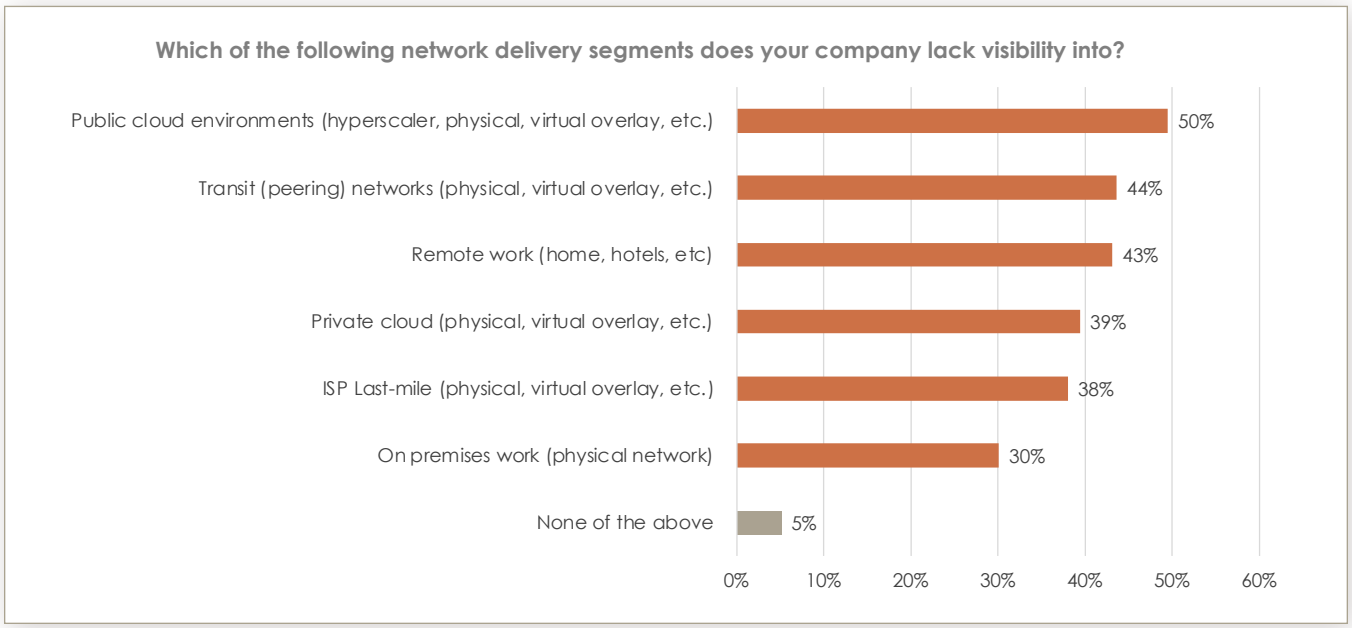
Internet and Cloud Environments Create Network Blind Spots

Given the need for visibility for unmanaged networks to support AI in the preceding section, participants were asked if the use of unmanaged networks use was creating network blind spots. 87% stated the internet and cloud use obscures network operations. The chart below indicates a trend is forming, revealing that the rollout of AI and its distributed operations are outpacing the network team's ability to effectively support it.

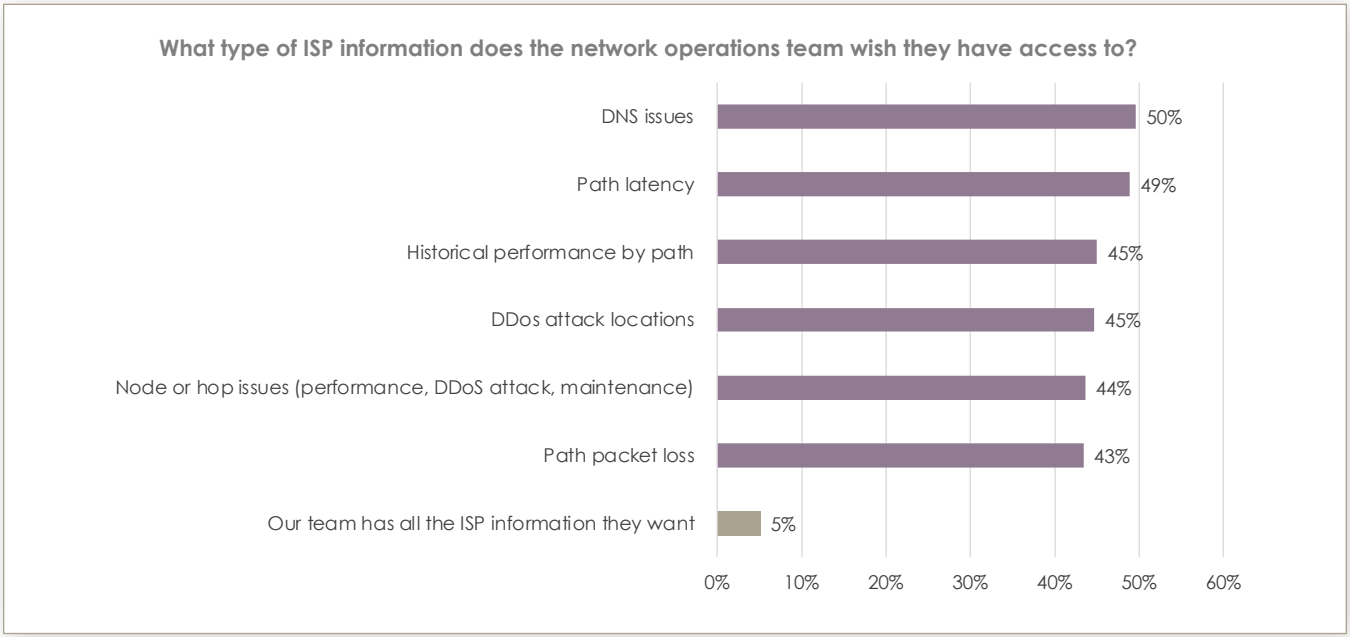


Poor Visibility into Public Cloud Environments and ISPs

In order to understand the magnitude of visibility challenges, participants were asked exactly where they lack visibility. Half (50%) stated public clouds were the worst offenders, with transit and peering networks in second place (44%). Just one point below at 43% is remote work, which is both more frequent today and a common location for the users of AI solutions. Interestingly, approximately 1 in 3 companies still struggle in directly controlled networking infrastructure: private cloud (39%) and on-prem (30%).

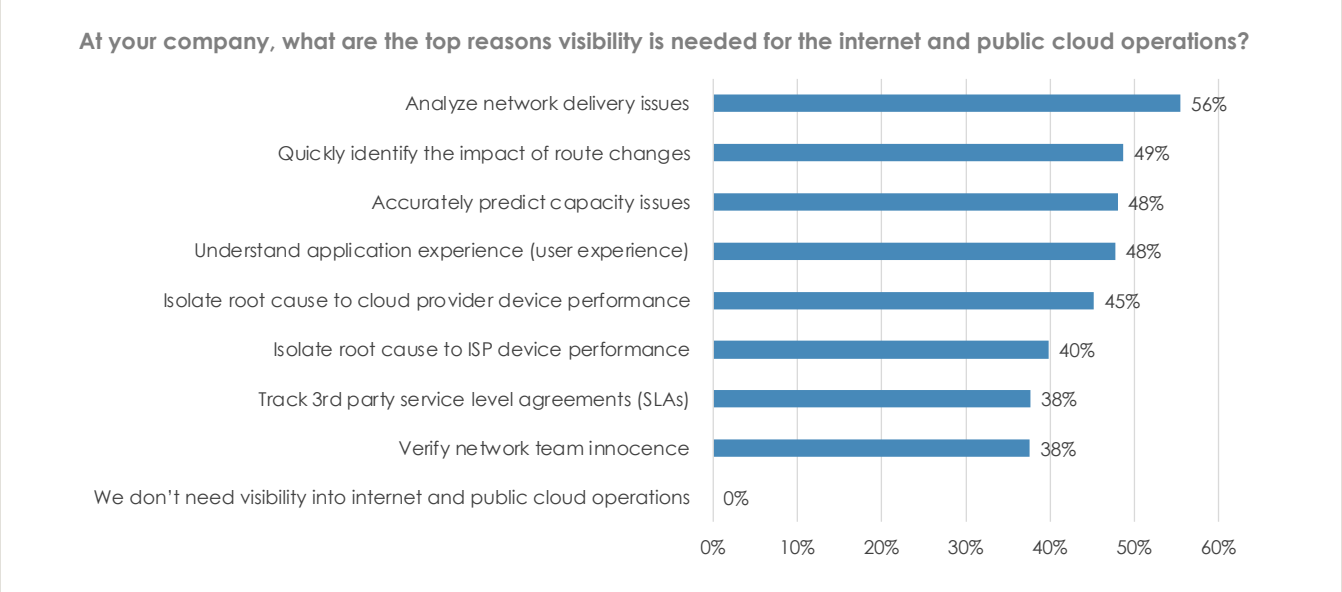


Visibility into remote workers, peering networks, last mile, and public cloud operations requires some ISP network and operational information. While the chart below shows that teams want ISP visibility into DNS issues (50%), path latency (49%), path performance (45%), DDoS attack locations (45%), node issues (44%), and pack loss (43%), the key takeaway is made by the mere 5% who say they get all the information from the ISP they need. Thus the ISP joins the list of areas in the network that lack visibility and real-time information.



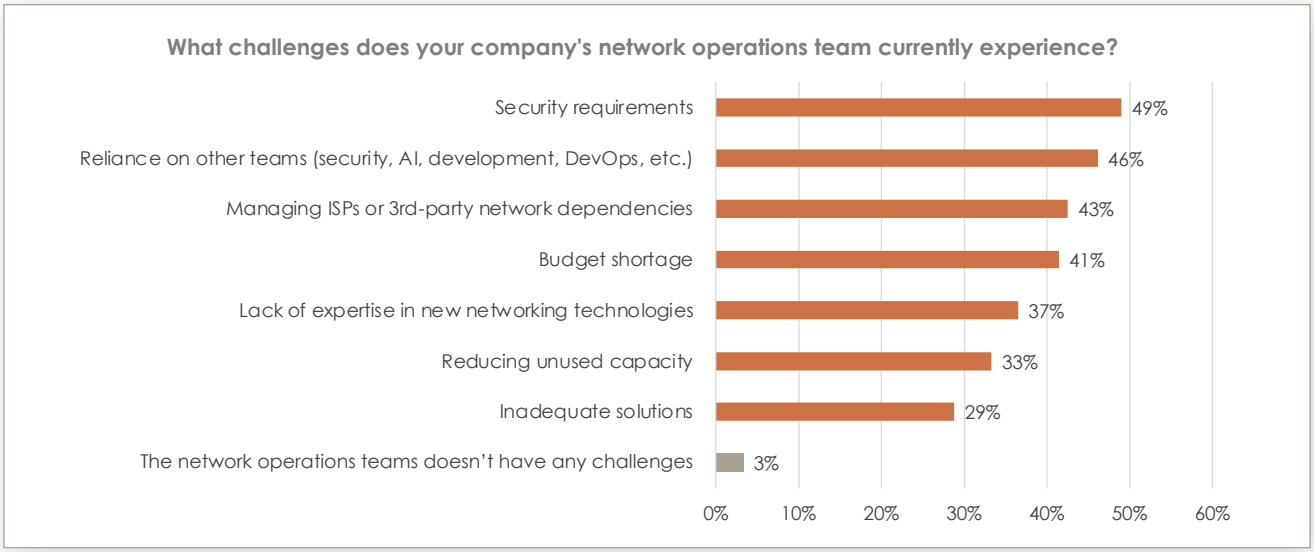
Visibility Drives Performance and Improved User Experiences

Many of the preceding sections discussed the network team's cited need for visibility and the numerous areas of the network where visibility is obscured. In order to document why visibility is key, participants were asked what value visibility delivered. Leading those responses was analyzing network delivery issues (54%), impact of route changes (49%), predict capacity issues (48%), and tracking user experience (48%). The next two were isolating root causes for the cloud provider (45%) and ISP (40%). These answers indicate sound operational philosophy, establishing current performance and user experience at the performance level, as well as using the visibility to predict potential issues, drive proactive resolution, and speed remediation. The last answer, at 38%, of wanting to exonerate the network team innocence means a good portion of companies are still functioning with the 'blame the network' first mentality.



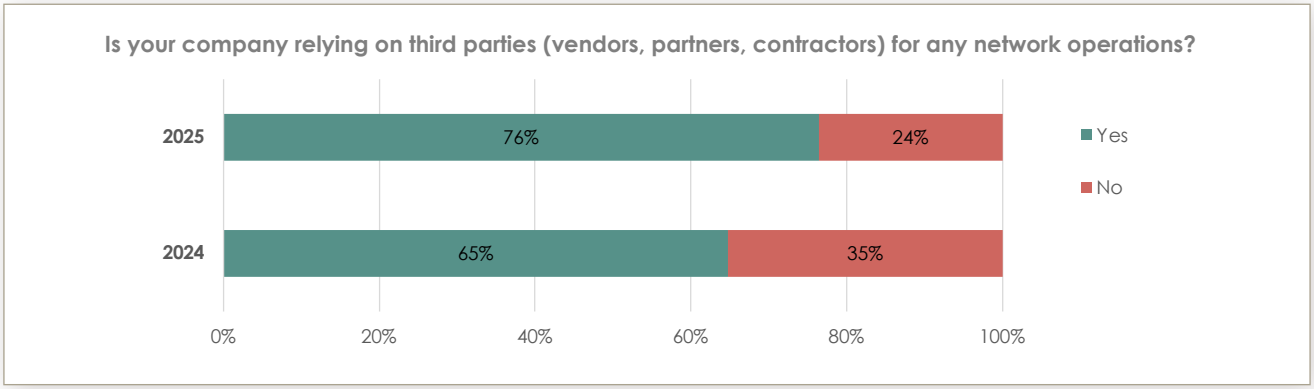
Networking Teams Struggle with Budget, Expertise, and Tools

Progressing from visibility challenges, the research investigated what other strategic challenges network teams are experiencing. Leading the results was security (49%), which tops most lists for technologists, followed by reliance on other teams (46%). Networking is subject to numerous roles (operations, users, developers, DBAs, etc.) and of course security. However, many of the next challenges are common day-to-day tasks like managing ISPs (43%), budget allocations (41%), lack of expertise (37%), reducing unused capacity (33%), and inadequate solutions (29%). Many of these challenges can be self-imposed, and with growing network complexity and AI needs, these challenges will increasingly affect the company's success.

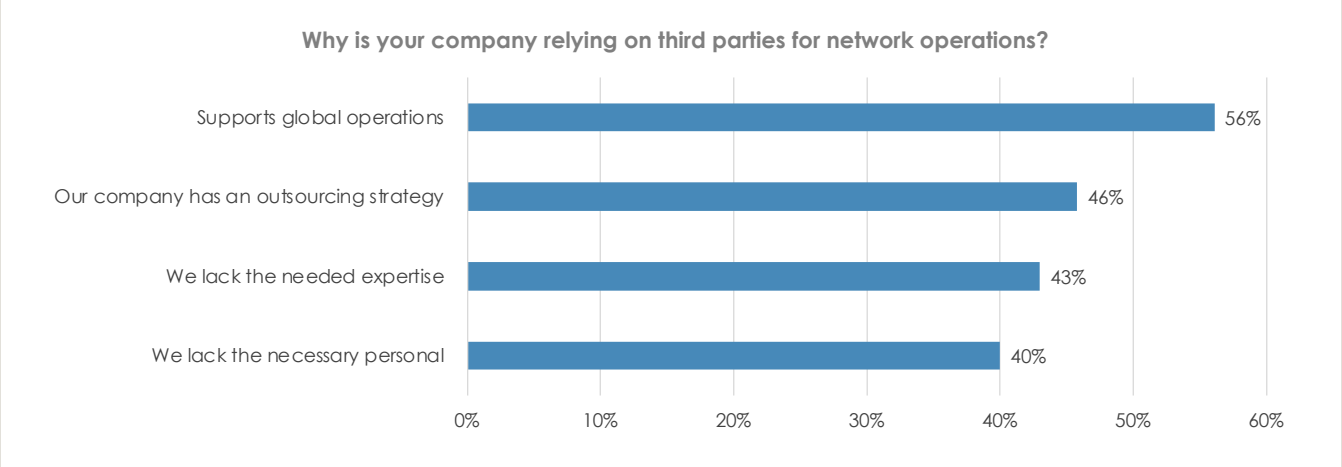


Growing Reliance on Third Parties for Network Operations

The top chart below indicates a growing reliance on third parties for network operations, with 3 out of 4 companies dependent today. Perhaps that is the direct result of challenges cited in the previous sections.

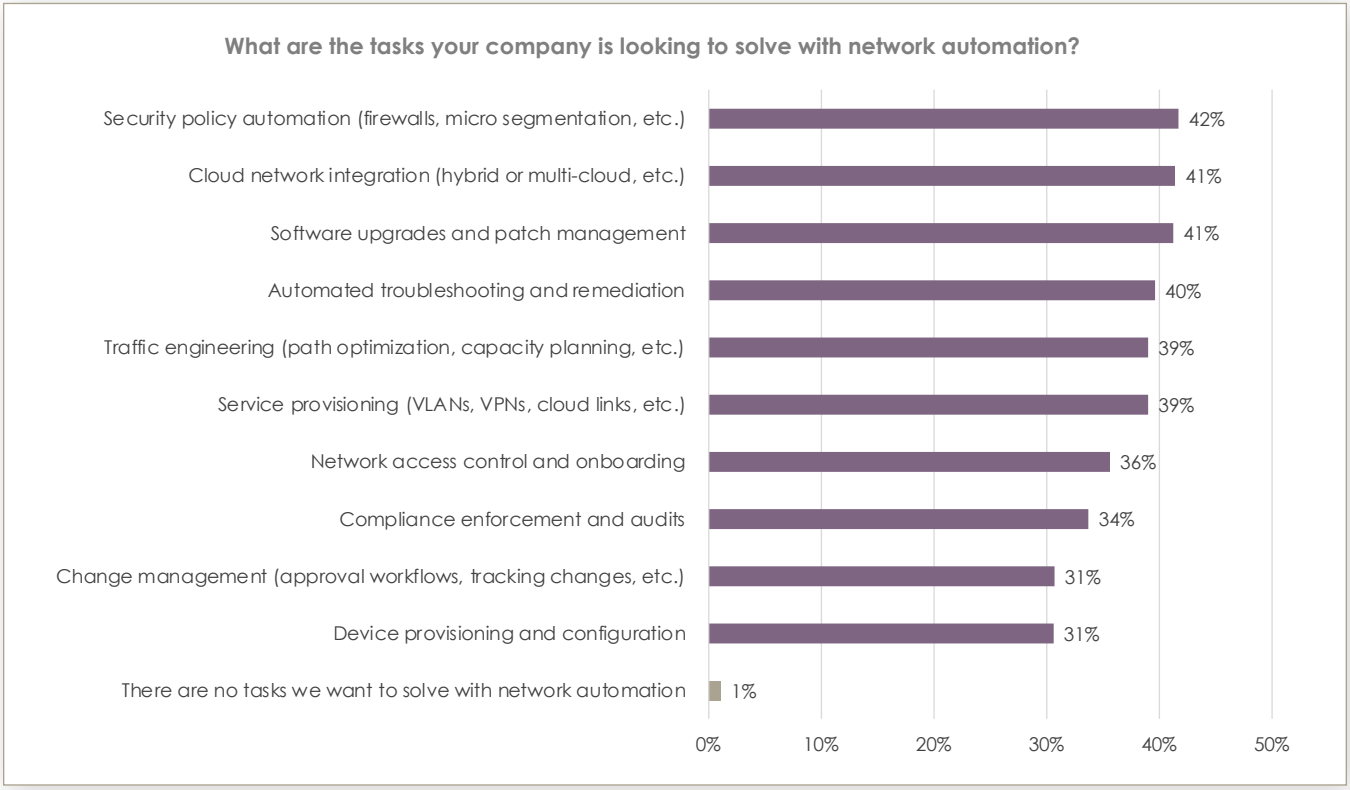


To accurately understand why this trend is growing, the research inquired what tasks the third parties are focused on. Leading all is supporting global operations (56%), out-sourcing strategy (46%), lack of expertise (43%), and staff shortages (40%). It appears that lack of visibility is contributing to a need for increased remote based global operations and that lack of efficiency is driving the cost management provided by outsourcing. Are the last two a lack of focus by management to ensure a proper networking resource within IT? While networking may not be as high profile as AI, or cloud, this research shows that AI success is directly linked to a high performing network.

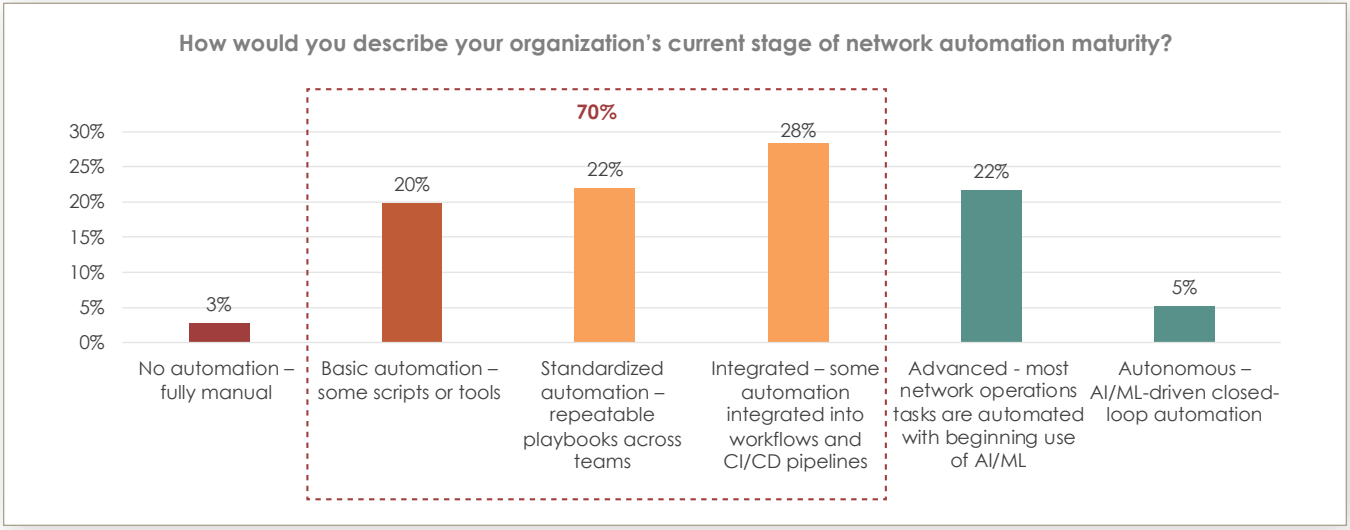


Rapid Adoption of Network Automation Continues but Few are Mature

Automation has long been utilized to drive efficiencies and migrate skilled sources from mundane repetitive tasks. Given the shortage of skilled staff, participants were asked specifically what their company is trying to achieve with automation. First it is key to acknowledge that 99% of companies report using network automation, with the leading focus on security policy application (42%), cloud network integration and upgrades, and patch management both tied at 41%. Just one point below, at 40%, is automated troubleshooting and remediation. Traffic engineering and service provisioning also tied at 39%. The key takeaway from this chart is that automation is being used for a diverse set of tasks.

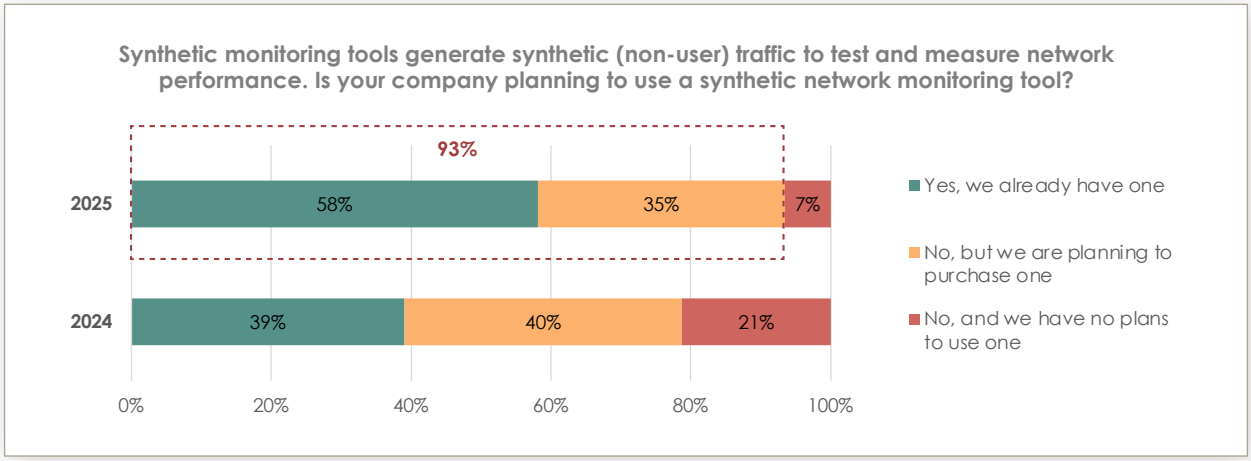


With the diverse uses for automation, the next logical question was to understand automation maturity in order to establish some understanding of why companies are short of experienced personnel. If a company is sufficiently mature with automation, the lack of personnel needed is likely due to a rapid growth of networking needs from cloud and AI initiatives. However, the data below shows that just 27% have mature automation practices, while 70% are still working on adoption, implementation, and scaling their automation. Thus, some of the resource shortages and third-party reliance can be linked to low automation maturity.

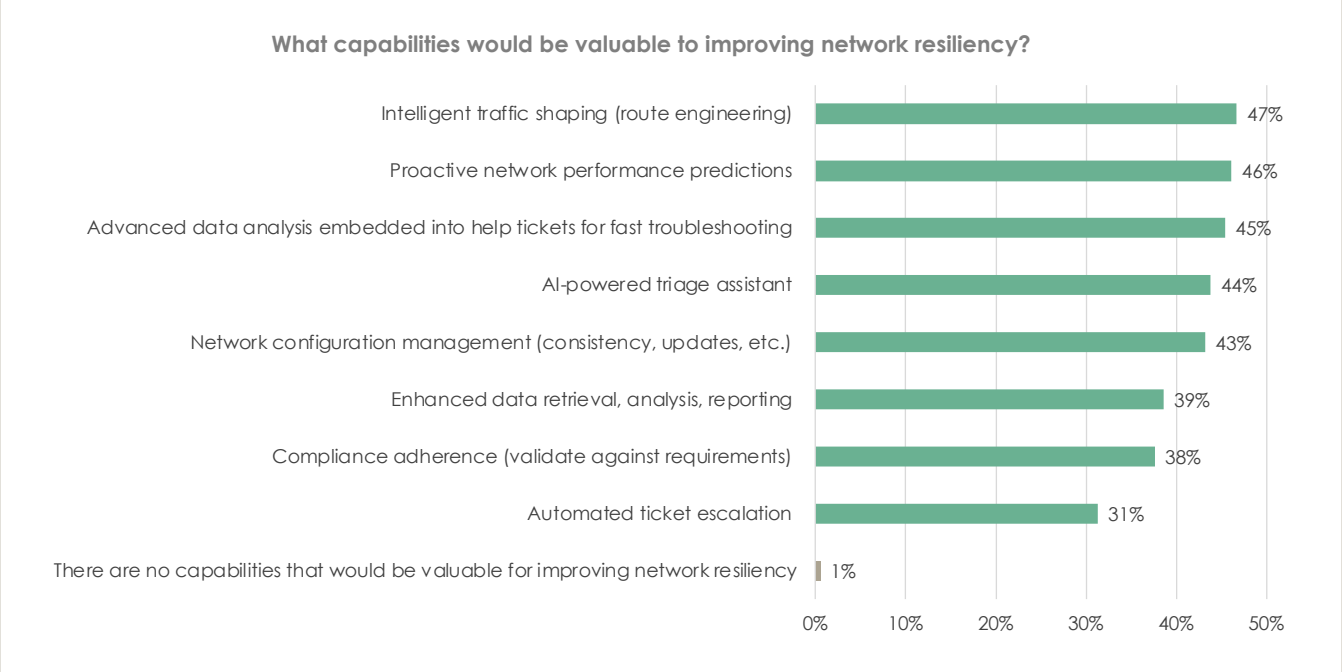


New Capabilities Needed to Manage Modern Networks

One of the key challenges mentioned for network operations is not having proper tools. The chart below shows a growing trend in using synthetic monitoring tools. In 2024, just 79% showed planned use of synthetic monitoring tools which grew to 93% this year. This is likely an approach to help manage the dynamic nature of cloud and AI operations, not only for performance but to predict possible issues.

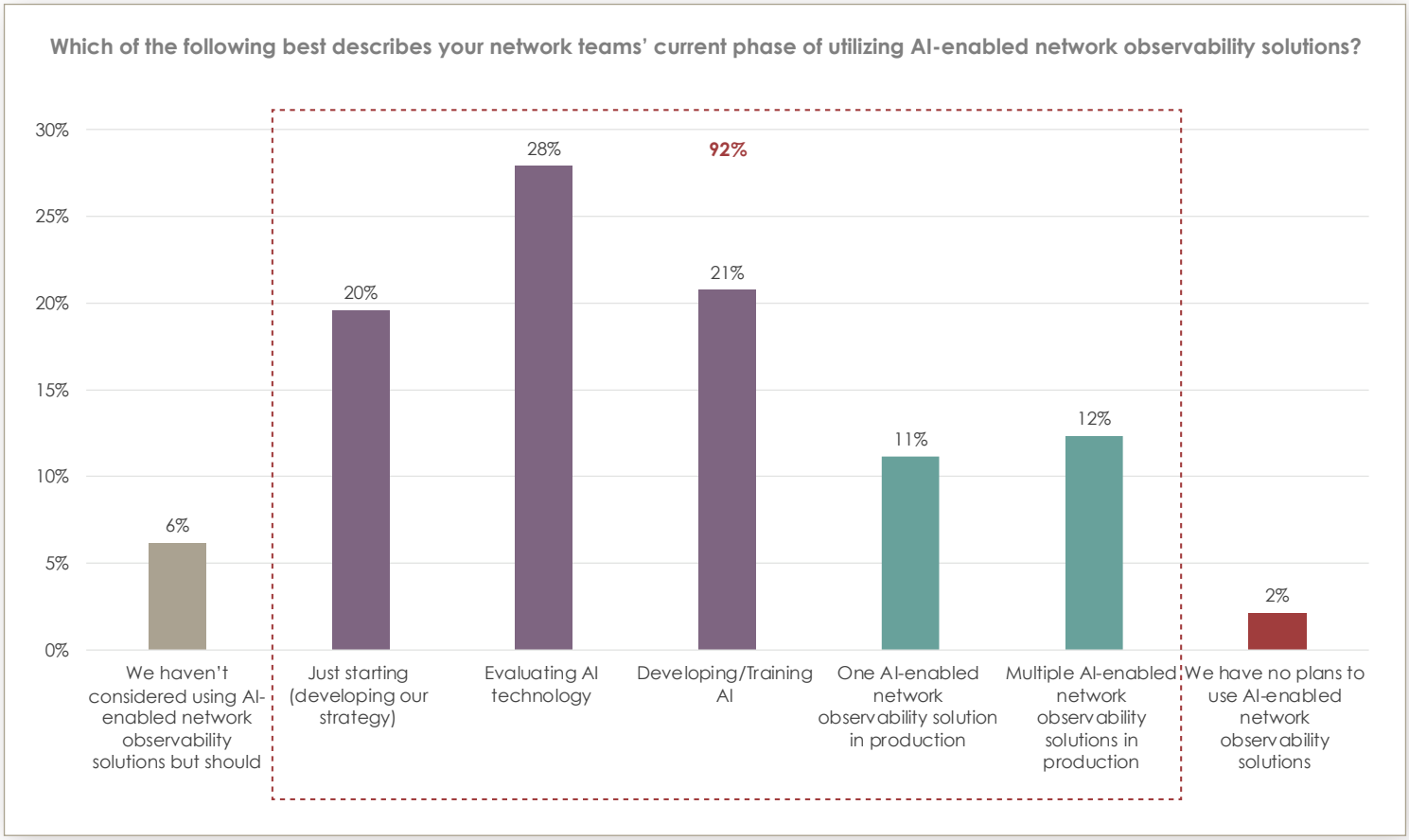


With the dynamic nature of cloud and AI operations, technology professionals were asked which capabilities are needed to improve network resiliency. The first observation from the chart below is that top five answers are each separated by one percentage point. This data profile indicates that there isn't a single feature needed, a magic sliver bullet, but rather that several key capabilities are required. Leading those capabilities is intelligent traffic shaping (47%), followed by network performance predictions (46%), then help tickets with embedded data for faster triage (45%), and AI-powered triage assistant (44%). Completing the top five is network configuration management (43%). This broad array of needed capabilities builds a perspective of how the demands of managing a modern network are changing.



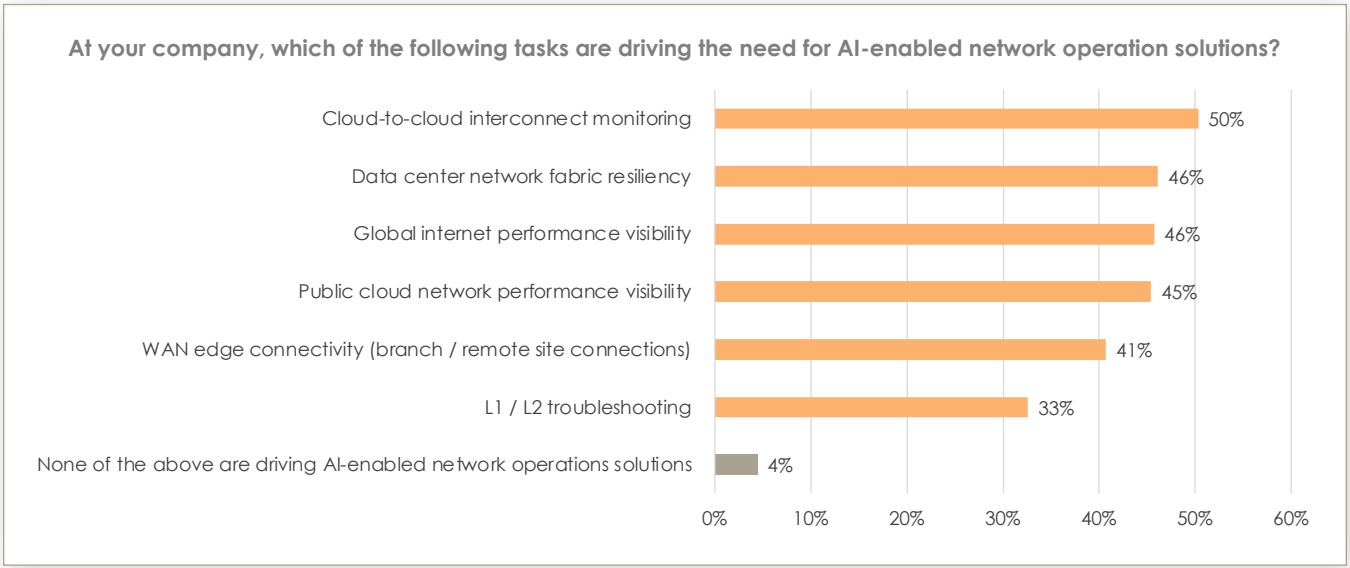
Nearly All Plan to Utilize AI-enabled Network Observability Solutions

One of the capabilities sought for increasing network resiliency was an AI-enabled triage agent. To measure the perceived value of AI for networking, the research inquired about the use and adoption of AI-enabled tools for network visibility and observability. Only 2% stated they no plans to use an AI-enabled network solution. Of the 98% who are considering its use, 92% have already started their process, with 23% stating they have solutions deployed today. This indicates a staunch belief that AI-enable networking tools can resolve many of the issues and challenges discussed previously in this report.

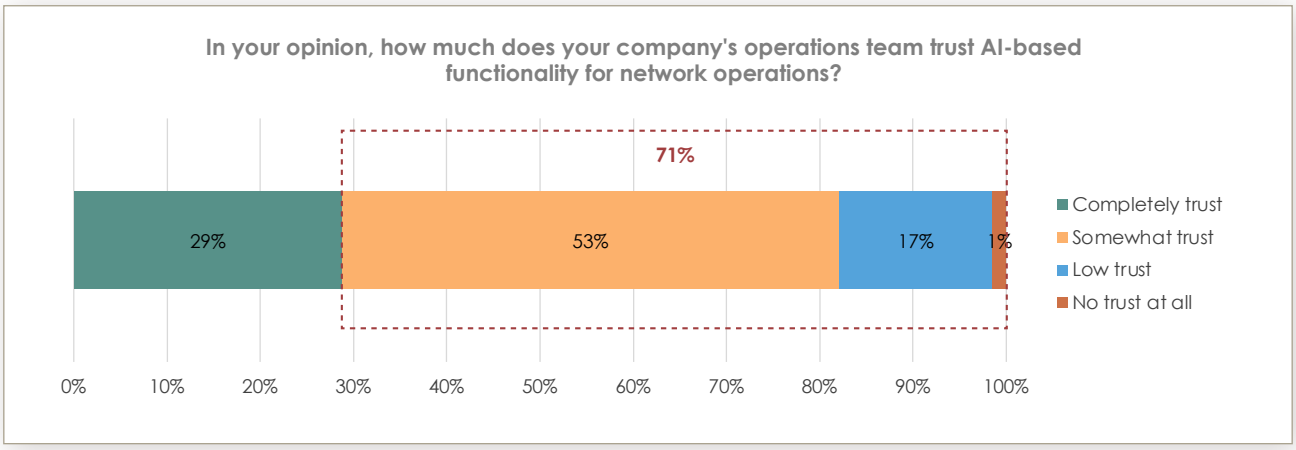


Orchestration and Centralization Are Critical To AI

To detail what challenges companies are hoping resolve with an AI-enable network operation solution, the research investigated which tasks are ideally suited for AI assistance. Three of the top four answers involved visibility and monitoring: cloud to cloud (50%), global internet performance (46%), and public cloud network performance (45%). L1/L2 troubleshooting show strong value in AI providing information and diagnostic assistance. But network fabric resiliency (46%) and WAN edge connectivity (41%) were the only assignable autonomous task-based actions.



These answers led to a follow up question about how much they trust AI-based functionality. While 29% had full trust in AI, 71% have some reservations. This lack of full confidence likely led to a majority of the tasks for AI-enable network operations being predominately data collection, information sharing, or simpler tasks. This approach appears similar to the way sophisticated automation was initially utilized.



Conclusion

Today companies are accelerating cloud utilization and AI adoption and deployment. But success with AI is intrinsically linked with network performance, and this report shows that teams lack the visibility to properly ensure the performance and resilience of the network. This lack of visibility not only includes the traditional on-prem infrastructure but continues to be obscured by Internet, ISP, and public cloud resource utilization.

When asked about network operational challenges there are a surprising number of day-to-day challenges which are typically associated with keep-the-lights-on and basic team management, including lack of resources, shortage of needed expertise, and inadequate solutions, not to mention shortage of budget needed. These challenges appear to be mitigated at least in part by the utilization of third-party network operations. The findings in this report show that automation continues to hold promise for accelerating a multitude of tasks that will help scale an organization. But only a third of the companies are near automation maturity, thus most are leaving opportunity on the table.

A clear undercurrent of the data is a consistently poor set of network tools for today's environments. These inadequate tools are directly contributing to a lack of visibility and poor automation. With the networks' direct correlation to AI success, one would think that acquiring budget for proper tools would be achievable. There is some evidence that new investments are being made, such as the increasing use of synthetic monitoring tools. And 92% of the companies surveyed are already looking into AI-enabled tools for network operations with a direct focus on increasing visibility, the lack of which is pervasively impacting network operations today.

While AI is driving a lot of challenges and demands across the IT organization, for network operations it is also providing an opportunity to solve some pervasive problems but utilizing AI-enabled solutions. However, there are only a few tasks that network operations professionals want AI to accomplish without some human oversight. It appears a good strategy to see how AI enabled tools work with providing visibility and executing some simple tasks in order to grow confidence to allow the AI to increasingly manage some traffic operations and ensure resiliency in the future. This adoption of AI may lead to less reliance on third parties for network operations as it scales the organization by freeing up limited expertise from mundane and issue-driven tasks.

Survey Methodology

Networking, operations, cloud, and architecture professionals at medium to global enterprise companies representing all seniority levels were invited to participate in a survey on their company's network operations practices, AI adoption, and its relation to network performance. The survey was administered electronically, and participants were offered a token compensation for their participation.

A total of **857 qualified participants** completed the survey in 2025, and **505 participants** complete the survey in 2024. All participants had IT and networking responsibilities. Participants were from 5 continents, providing a global perspective.

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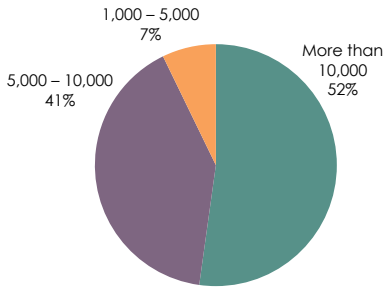

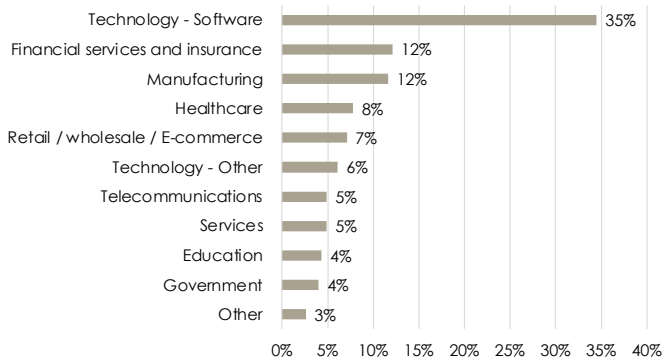

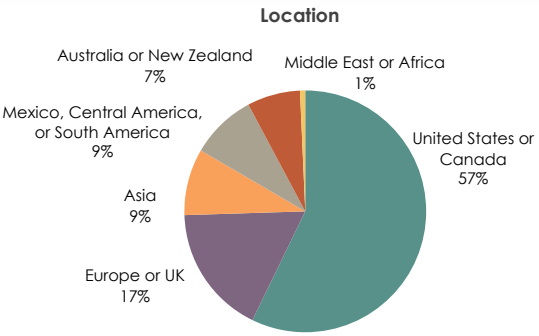

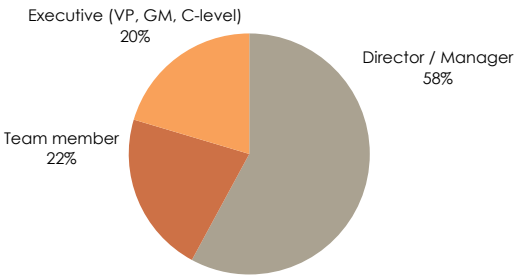

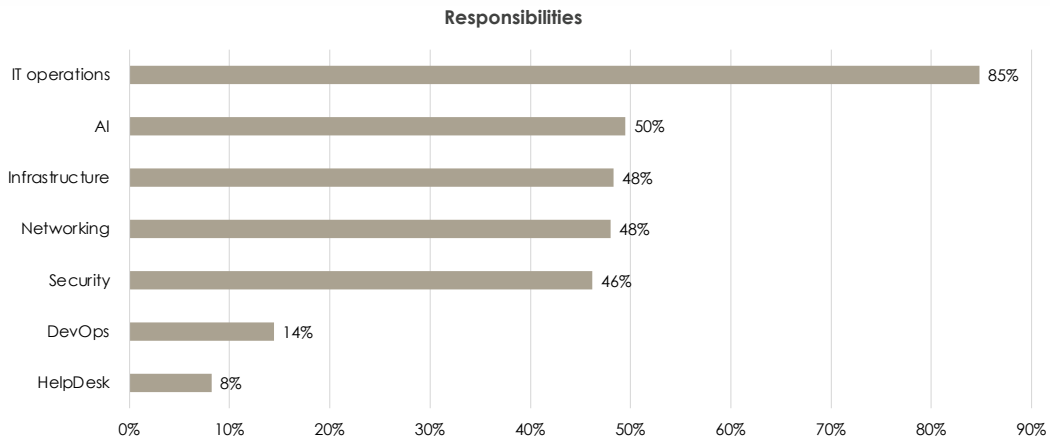

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