The Evolution of Network Intelligence in the Digital Age

Progress and growth opportunities in network visibility and automation

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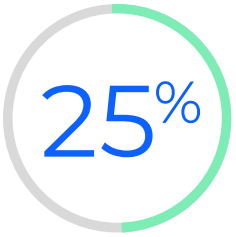
Today, almost every business is a digital business. Digital technologies have transformed the way businesses operate: delivering better customer and employee experiences, increased efficiency, and data-driven insights. This shift also means that most companies are managing applications across on-premises and cloud deployments, as well as experiences across touchpoints, relying heavily on robust networks to keep things running daily.

Traditional methods of network monitoring and manual management, sufficient only a short time ago, are becoming inadequate. Managing apps across both on-premises and cloud deployments in a widely distributed user base with a multitude of touchpoints requires a rethinking of network and connectivity. Agile network infrastructure is key, and visibility into the network is now paramount, both for security and for harnessing the power of the data within the network. Today's network must seamlessly adapt to evolving IT and business needs, and an urgent need for greater networking intelligence has emerged as a driving force — promising smarter operations and increased efficiency and security — and a catalyst for innovation.

Enter, network intelligence: the ability to collect, analyze, and interpret network data and information to gain insights and make informed decisions. Network intelligence involves using advanced tools, technologies, and techniques to monitor, manage, and optimize network performance, security, and operations. And forward-thinking companies are taking this one step further, leveraging network intelligence for better digital business outcomes and cost management.

A recent survey conducted by Foundry and sponsored by Comcast Business sheds light on the state of network visibility and the factors propelling the demand for enhanced network intelligence and automation. The survey of IT decision-makers from companies with more than 500 employees delves into the strategies being used to navigate this network modernization journey. It also highlights adoption trends among the various tools, technologies, and techniques used to optimize network performance, security, and operations.



of organizations have advanced visibility into real-time network states

Overall, the findings are revealing: Although most of the respondents view their current network visibility positively, it's evident that there's substantial room for improvement, particularly to handle rapidly changing business demands.

Bridging the visibility gap: a critical endeavor for enterprises

There is no question that IT and business leaders need their network to collect, analyze, and interpret data to make informed decisions. With today's distributed IT environments, monitoring application performance and troubleshooting service delivery have become burdensome. The performance of cloud-delivered applications is paramount for business success and requires constant awareness, as well as visibility into and automation of best-path routing.

Despite the progress, a glaring visibility gap persists in many enterprises. More advanced visibility into network states and processes remains elusive for many. What's at stake?

These gaps have far-reaching implications, from limited application performance insights to heightened security vulnerabilities and constrained understanding of user behavior.

The numbers speak volumes: 69% of respondents rated their visibility into real-time network states as intermediate, and a mere 25% consider it advanced. Similarly, security monitoring visibility is deemed intermediate by 73%, with only 20% achieving advanced status.[1]

Network intelligence: gaps in adoption and potential business benefits

The survey finds that having multiple data sources, tools, and approaches does not always maximize business outcomes. Overall, respondents noted that they are currently relying on various network intelligence capabilities. Approximately two-thirds (65%) said their solutions use multiple sources to collect data, ranging from logs and polls to telemetry and synthetic tests. Integration with other management and observability tools was cited as a capability by 64%, and 59% said they work with tools that provide both proactive and reactive recommendations and responses.

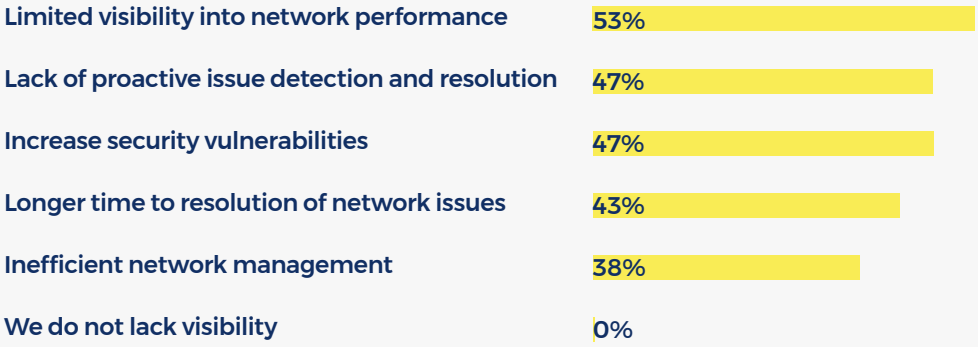
Still, although existing solutions and approaches offer a wide array of capabilities, a gap persists between their potential and the current deployment. Additionally, many are pointing to opportunities in leveraging network intelligence for better digital experiences and informed business decisions. These findings underscore the need for continued adoption and ongoing innovation to bridge the gap.

Network operations: missed benefits

The current network intelligence capabilities enterprises rely on indicate that they are making progress toward better-informed decision-making, enhanced security measures, and optimized network efficiency but also highlight substantial gaps. For example, almost half lack proactive issue detection and resolution (47%). Additionally, 43% experience longer time to resolution of network issues. Less than half (42%) of organizations said they enable network management automation. Only 44% said they currently leverage big data processing and artificial intelligence/machine learning (AI/ML) tools. And finally, only 9% rated themselves as extremely effective in optimizing costs.

[1] As part of the survey, respondents were asked to rank their organization's network intelligence capabilities on a scale of 1-10, with 10 being the highest. In this report, those who ranked themselves between 9-10 are considered "advanced," 7-8 are considered "intermediate," and 1-6 are considered "basic."

Impact of insufficient network intelligence on ITOps



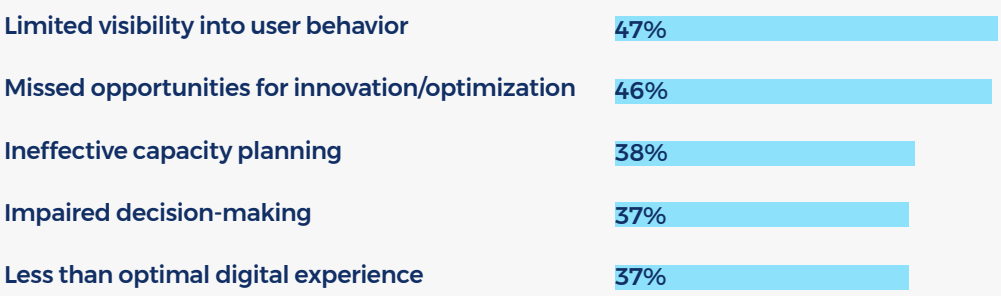
Opportunities for better business outcomes

Network intelligence limitations have tangible business implications. A significant percentage of the respondents said they face less-than-optimal digital experiences (37%), are challenged to make truly informed business decisions (37%), and have limited visibility into user behavior (47%).

In other words, many organizations are investing heavily in their cloud journey only to deliver a subpar user experience. Observability and network intelligence can solve that dilemma.

Most companies reported overall confidence in achieving business objectives through network visibility for factors such as optimizing cost, improving customer experience, and reducing time to market. Still, about a quarter (23%) expressed only moderate confidence in achieving those objectives, illustrating that some businesses are earlier in their network intelligence journey and have room for improvement.

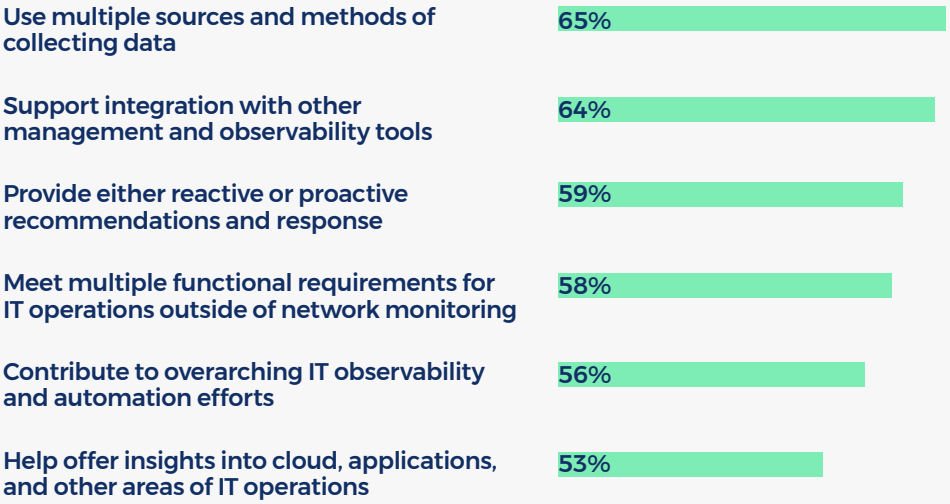
Impact of insufficient network on business benefits



Multiple data sources, tools, and approaches in use

The survey also looked at which tools are prominent but not universally adopted, revealing that capabilities such as flow-based analysis tools and upgraded user endpoint security are less commonly relied on. Commonly used tools include network performance monitoring and diagnostics (NPMD) and network mapping, highlighting a diverse toolkit at enterprises' disposal, with more than half of the surveyed organizations using multiple tools and approaches.

Current network intelligence capabilities



Despite the wide array of tools and processes in use to derive network intelligence, survey respondents indicated that their organization lacks a complete solution, instead relying on a patchwork.

And although the majority of the organizations are tracking multiple data sources and deploying dashboards in various areas, that in itself is not sufficient to derive the business and IT operations benefits possible, as discussed previously. A default dashboard isn't enough. Organizations need customizability so that individuals in security, network administration, and other functions can quickly absorb the information most relevant to them."

Automation and AIOps

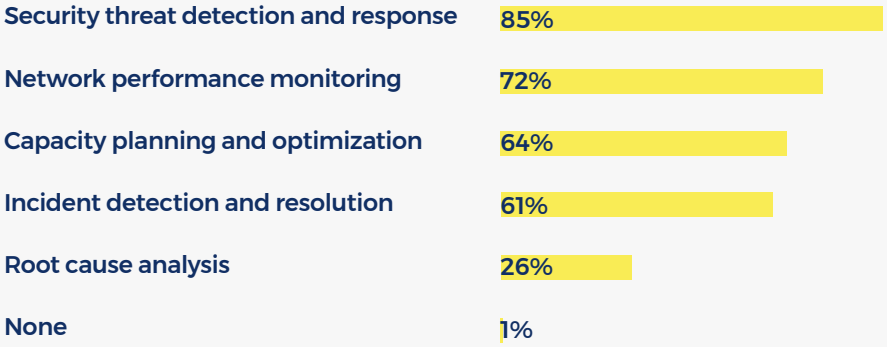
AIOps, short for artificial intelligence for IT operations, harnesses the capabilities of AI and machine learning to automate and streamline IT operations and network management. Analysts predict a seismic business impact of AIOps, which offers unprecedented visibility, optimizing performance, and proactively circumventing service disruptions.
By deploying sophisticated analytics and data science, AIOps can deliver

enhanced network visibility, optimize overall network performance, and proactively avert service outages, removing the burden from staff in managing the growing issues and enabling them to focus on more business-critical objectives.

The Foundry/Comcast Business survey reveals that most organizations (75%) have partially implemented automation and are leveraging some form of AIOps to overcome the limitations of conventional network monitoring and manual management approaches. However, only 14% claimed to have achieved full implementation.

What is the promise of network automation or AIOps? The answer is complex and involves a multitude of positive improvements for adopters. An overwhelming 89% of the surveyed organizations currently use or plan to use network automation or AIOps. And that makes sense, as most of the respondents said network automation or AIOps is superior to nonautomated approaches when it comes to meeting several business challenges. Security threat detection and response (85%), along with network performance monitoring (72%), are the top two areas where respondents believe that network automation or AIOps provides outcomes superior to current approaches. Capacity planning and optimization (64%) and incident detection and resolution (61%) were also cited.

IT challenges better addressed by network automation or AIOps vs. nonautomated approaches



The survey also reveals that respondents find network automation or AIOps approaches superior to nonautomated approaches in many additional areas. Improved security performance was cited by 62% of the respondents as an area where network management pain points are addressed better by network automation or AIOps than by nonautomated approaches. A little over half of all respondents reported improvement in network agility (58%), greater visibility (56%), improved user experience (55%), and IT operational improvements (52%).

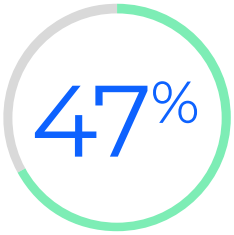
Automation: the future of network intelligence

The survey findings paint a picture of decision-makers embracing network automation and AIOps to fortify network intelligence. However, the looming question is whether businesses are progressing adequately to meet the myriad challenges they face in a constantly evolving digital business landscape. Although current levels of visibility are considered adequate by many, there are many areas where enhancements can be made to align with the changing requirements of the business. AIOps stands as a beacon of innovation, offering enterprises a way to not only keep pace with digital advancements but also to lead and set new benchmarks in efficiency, security, and operational excellence.

As we navigate this transformative journey, it is crucial to recognize the role of network intelligence as more than a mere technological upgrade and be aware of the remaining business opportunities. Network intelligence can become a fundamental pillar of business strategy, driving decisions, improving experiences, fostering innovation, and ensuring a competitive edge in an increasingly digital world.

Overall, what the study reveals is that enhanced network intelligence, supplemented by AIOps, has the potential to transform your network.

We are witnessing the beginning of a transformative era in network intelligence and more sophisticated capabilities, which are vital for ensuring sustainable growth and resilience in the digital landscape.



of organizations lack proactive issue detection and resolution capabilities

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