

Network Observability
by Broadcom

NETWORK OBSERVABILITY BUYER'S GUIDE

Keys to Finding a Solution that Fuels End-to-End
Visibility and Optimized User Experiences

[NETWORKOBSERVABILITY.BROADCOM.COM](https://networkobservability.broadcom.com)





MODERN NETWORKS NEW IMPERATIVES

To gain a competitive edge and accelerate their digital transformations, organizations around the world continue to adopt new cloud services, software-defined networking technologies, and other innovations.

The challenge is that while these advancements present significant advantages, they also create visibility gaps for network operations teams. Today, mission-critical network traffic traverses tunnels and pathways that network operations teams can't monitor or manage. This leaves organizations exposed to a range of problems. Network operations teams struggle with time-consuming, labor-intensive, and ultimately insufficient troubleshooting workflows. Organizations are exposed to lengthy outages and all the business ramifications that arise when critical services go down, including poor service levels, diminished staff productivity, lost sales, and more.

To combat these visibility gaps, teams need a network observability solution that can provide coverage of the entire network delivery path. Teams require complete visibility, no matter which local area network (LAN), wide area network (WAN), or software-defined WAN (SD-WAN) traffic traverses. This visibility must apply, no matter whether networks are managed by internal teams or by internet service providers (ISPs), cloud vendors, or any other external entities.

Teams need to be able to leverage data from disparate sources, aggregate and correlate it, and gain clear, actionable insights, so they can rapidly fix issues and preempt potential problems before users or the business are affected.

This buyer's guide offers insights into network observability, outlining why it's so challenging, key capabilities you need to be effective, and how to ensure you find the right solution.

TABLE OF CONTENTS

- 04 THE PRESSING CHALLENGES FACING TODAY'S NETWORK OPERATIONS TEAMS
- 06 WHY A NEW APPROACH IS REQUIRED, HOW NETWORK OBSERVABILITY CAN HELP
- 08 NETWORK OBSERVABILITY: MUST-HAVE CAPABILITIES
- 10 THE THREE ADVANTAGES OF END-TO-END NETWORK OBSERVABILITY
- 12 CHOOSING THE RIGHT SOLUTION PROVIDER
- 13 EVALUATION: KEY QUESTIONS TO ASK POTENTIAL SOLUTION PROVIDERS
- 14 HOW BROADCOM CAN HELP
- 16 START HARNESSING THE POWER OF NETWORK OBSERVABILITY. HERE'S HOW.





#1

NETWORK ISSUES ARE THE #1 CAUSE OF DOWNTIME.

Source: <https://trilio.io/resources/cost-of-downtime/>

THE PRESSING CHALLENGES FACING TODAY'S NETWORK OPERATIONS TEAMS

PROLIFERATING COMPLEXITY

In a relatively short time, networks have grown significantly more complex, with network services increasingly reliant upon more distinct technologies, protocols, and vendors. Further, with the increased adoption of software-defined networks and other technologies, these networks continue to grow more dynamic. This leads to more change, data, and alarms that teams have to stay on top of. Consequently, ensuring network services are continuously available and responsive keeps getting more challenging.

93%

Are adopting synthetic monitoring for observability of SaaS, cloud, and SD-WAN

Source: EMA Research, "Network Management Megatrends 2024"

CONTINUING SKILLS AND TALENT SHORTAGES

A shortage of skilled network operations personnel is a big problem in many organizations. Teams struggle to hire and retain the staff they need, while the demands imposed by modern environments keep getting more intense. Many teams are struggling to keep pace with existing demands, and those demands only continue to grow.

#1

Skill shortages represent the #1 challenge for network teams.

Source: EMA Research, "Network Management Megatrends 2024"

TRANSITIONING TO AI

Artificial intelligence (AI) and machine learning (ML) are transforming IT operations, and generative AI is fueling ever more rapid advancements. While these innovations promise breakthroughs in operational processes, time savings, and efficacy, these technologies also present significant potential risks—and their benefits remain unproven beyond any doubt. Navigating these transitions will add to the demands facing already stretched network operations teams.

64%

of organizations have adopted AI for network operations

Source: EMA Research, "Network Management Megatrends 2024"

ADDRESSING INTENSIFYING SECURITY DEMANDS

As organizations continue to grow more reliant upon network connectivity, they continue to become more exposed to network-based threats. Network environments continue to grow more complex and cyber attacks keep getting more prevalent and sophisticated. Consequently, it's never been more vital for teams in the network operations center (NOC) to coordinate effectively with their counterparts in the security operations center (SOC).

3

Top 3 investment priorities: network security, multi-cloud monitoring, and network automation.

Source: EMA Research, "Network Management Megatrends 2024"



WHY A NEW APPROACH IS REQUIRED, HOW NETWORK OBSERVABILITY CAN HELP

Modern networks span multiple data centers and clouds, with software-defined configurations constantly changing, making it challenging to grasp the network's state at any given moment. The surge in data traffic, the emergence of complex multi-vendor networks, and the accelerating shift to cloud-based services can create network visibility gaps, resulting in costly outages.

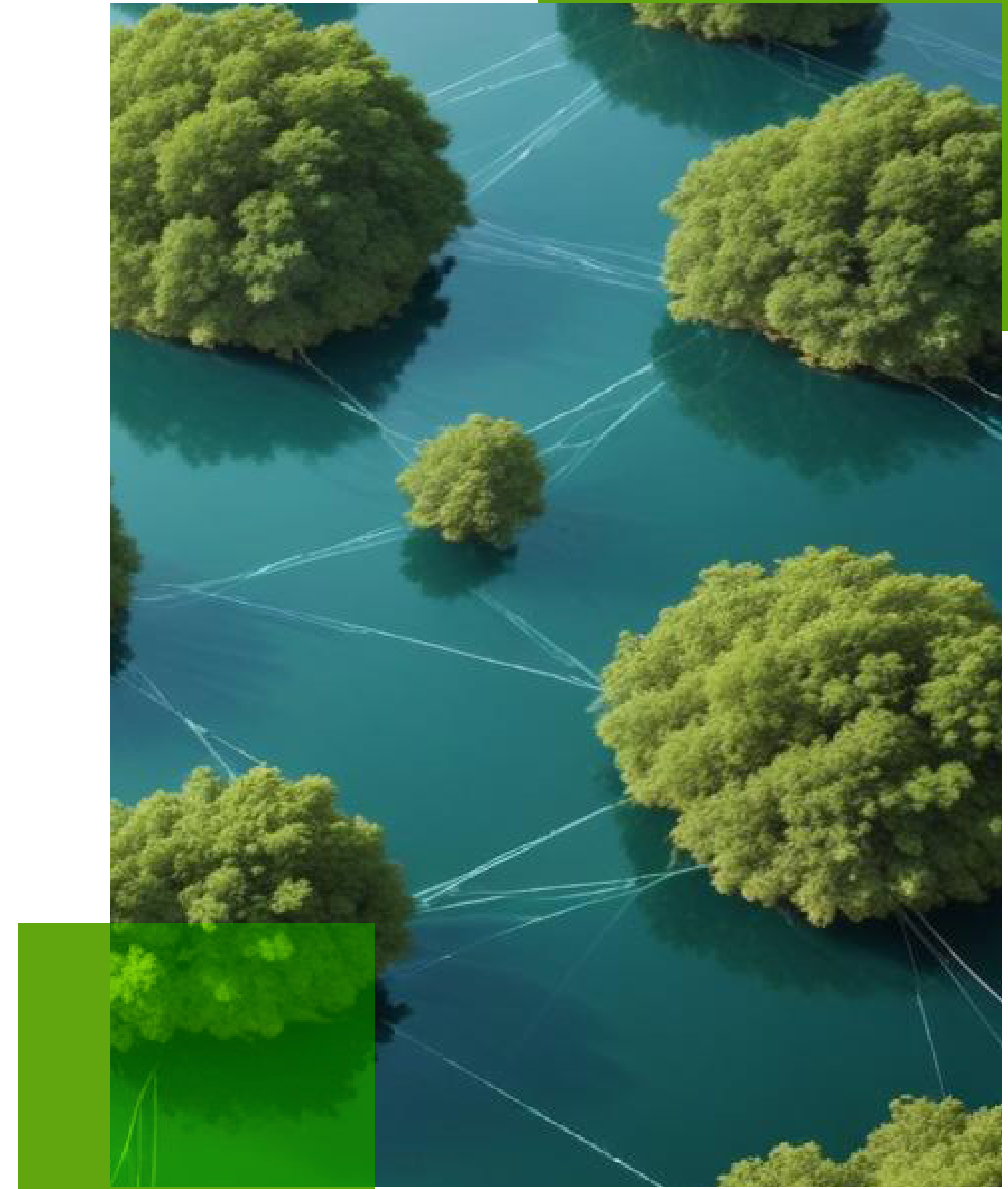
WHY NETWORK OBSERVABILITY IS VITAL

Despite the diminishing visibility and control that comes with the shift to modern networks and cloud models, network operations teams remain responsible for network performance and experience. Teams are reaching a point at which their legacy tools and approaches aren't tenable.

It's time to optimize and modernize your approach. Today, your teams need to establish network observability.

HOW NETWORK OBSERVABILITY CAN HELP

Given the increasing complexity of networking configurations and architectures, network observability has become crucial. Essentially, network observability enables prompt and accurate answers to any network-related questions. Here are a few of the advantages:





ELIMINATE VISIBILITY GAPS

Network observability gives your network operations teams complete visibility into how the modern network performs, eliminating blind spots and delivering the capabilities you need to ensure optimal network performance and user experiences.

LEVERAGE CONTINUOUS DATA COLLECTION AND CORRELATION

Network observability involves continuous data collection, correlation, and analysis from network components. Advanced solutions can correlate data from various sources—including CPU utilization, packet loss, latency, flow data, logs, traces, streaming telemetry, and more. This gives you the actionable insights needed to speed root cause analysis, issue identification, and troubleshooting. You can find and fix network issues before they affect end users and the business. This approach helps promote operational efficiency and network reliability and performance.

BOOST SERVICE LEVELS AND PERFORMANCE

By providing continuous visibility and aligning network state data with business contexts, such as SLAs and performance guarantees, network observability empowers organizations to navigate the intricacies of modern networks and meet business requirements.

CAPITALIZE ON AI ADVANTAGES

AI offers transformative potential for NOC efficiency. Network observability helps teams capitalize on this potential. Network observability solutions can work in tandem with AI models to enrich alarms, reduce false positives, and detect anomalies. This helps simplify network operations, mitigating the shortage of team members with deep networking skills.

NETWORK OBSERVABILITY MUST-HAVE CAPABILITIES

To address the emerging demands of modern businesses and networks, teams need network observability solutions that deliver these vital capabilities:

GAIN CROSS-DOMAIN, END-TO-END VISIBILITY

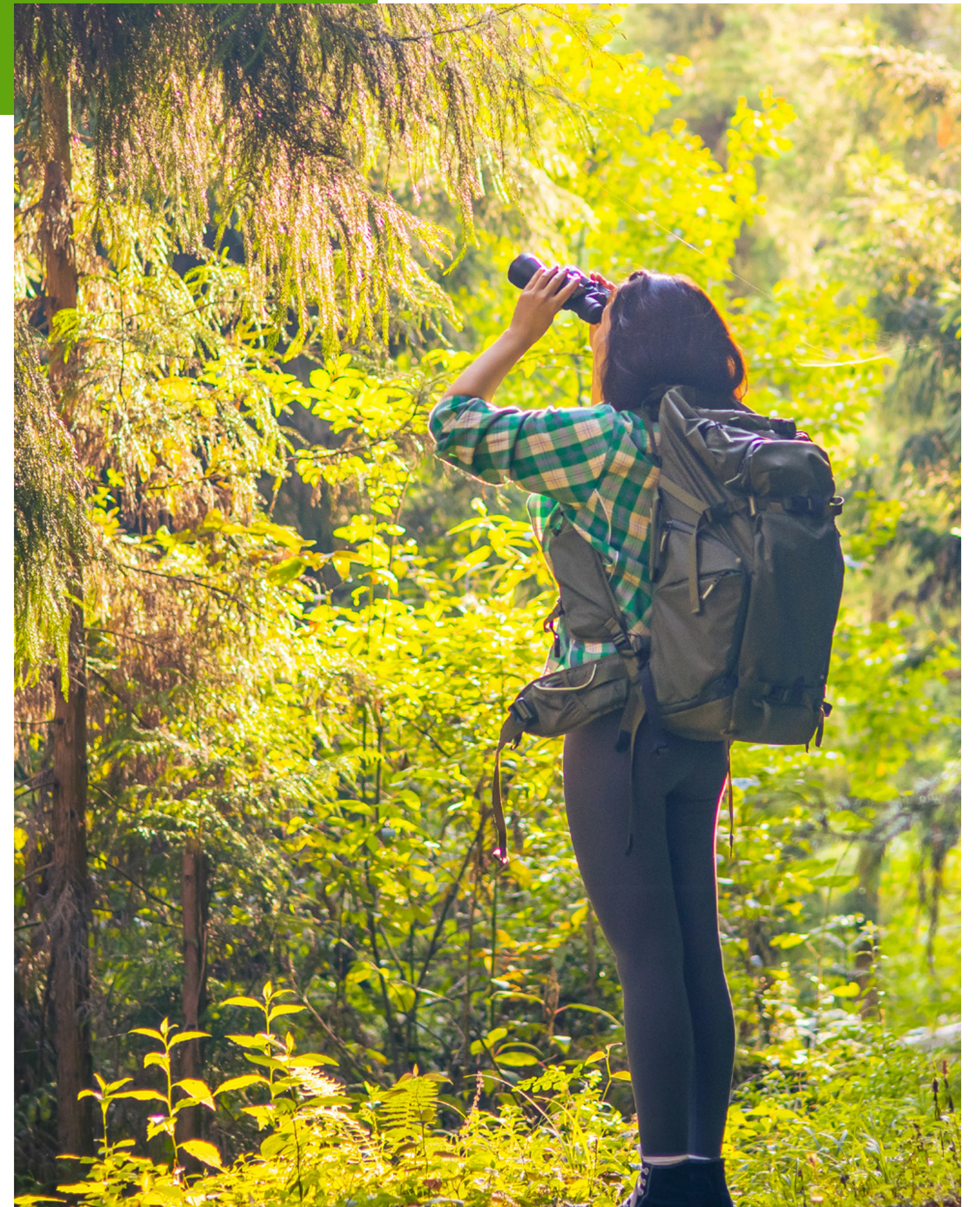
When issues arise and war room meetings are convened, network operations teams need to determine if their network infrastructure is to blame, and, if not, provide evidence that their environments are not the culprit. Gaps in visibility or data make this task time consuming or outright impossible.

To isolate issues more efficiently and to avoid disruption, your teams need a solution that fully maps the route user traffic takes, continuously monitors performance over the route, and intuitively reveals who's responsible for underlying infrastructure and services. The solution must provide unified visibility across networks you own and even those you don't.

To harness the full power of analytics and AI, the network observability solution must collect, aggregate, and correlate data using both agent-based or agentless methods. Additionally, it should seamlessly integrate with non-standard data sources across various technologies and multi-vendor environments.

MONITOR USER EXPERIENCE

It is essential to enhance connected experiences for any user and any application, no matter who owns the network infrastructure that connections rely upon. Network observability tools extend beyond the enterprise network perimeter, assessing application and service performance from the perspective of end-users' devices. By analyzing real user traffic and synthetic transmissions, solutions provide visibility into a range of metrics, including bandwidth, latency, jitter, and packet loss across the entire network delivery path.



EMPLOY PROACTIVE VALIDATION

Network performance and experience validation involves confirming whether relevant connectivity, health, performance, and end-user experience metrics meet expectations. Proactive validation before, during, and after deploying network changes or transformations ensures expectations are met, while reducing network delivery disruptions.

DELIVER INTUITIVE INSIGHTS, OUT-OF-THE-BOX REPORTS

Network operations teams grapple with growing hybrid network complexity and a shortage of skilled resources. To address this, they need readily available business reports and dashboards that transform intricate network data into actionable insights, offering a unified, user-friendly data presentation.

Your teams need solutions that offer in-depth and granular insights with robust visualization capabilities that streamline decision-making and enhance operational efficiency. These solutions deliver actionable insights via straightforward trend lines and advanced analytics based on usage patterns.

AUTOMATE DISCOVERY, MAPPING, AND CONFIGURATION

A network observability solution must automatically discover, map, and configure various network functions and connections, including networking devices, applications, third-party SaaS tools, edge locations, data center components, cloud-native constructs, SD-WAN overlays and underlays, and secure access service edge (SASE) architectures.

DELIVER NEAR-TERM SCALABILITY, LONG-TERM FLEXIBILITY

To meet rapidly changing business needs, organizations require a network observability solution that helps teams anticipate—and stay one step ahead of—evolving trends. An advanced solution empowers teams to navigate the complexities of modern technologies and protocols—today and over the long term. Here are a few key requirements:



SCALABILITY AND RESILIENCE

Teams need a solution that is resilient enough to support continuous availability and high scalability in the most processing-intensive, large-scale enterprises.



DEPLOYMENT FLEXIBILITY

An ideal network observability solution offers flexible deployment across on-premises, cloud, and SaaS environments, and can scale with minimal footprint.



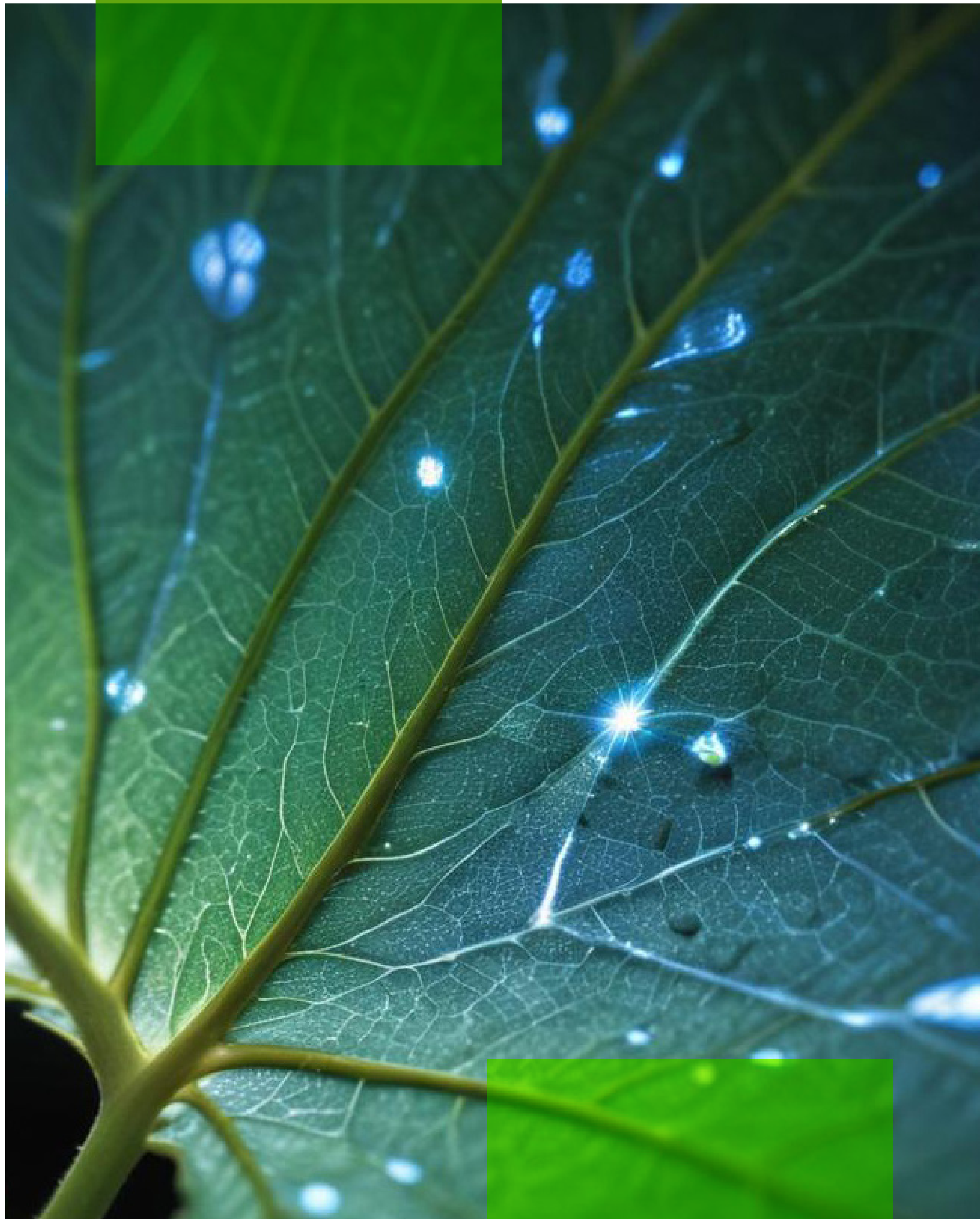
MULTI-TENANCY SUPPORT

To securely and efficiently support different divisions or clients, solutions must allow data separation at the tenant level.



INTEGRATION FLEXIBILITY

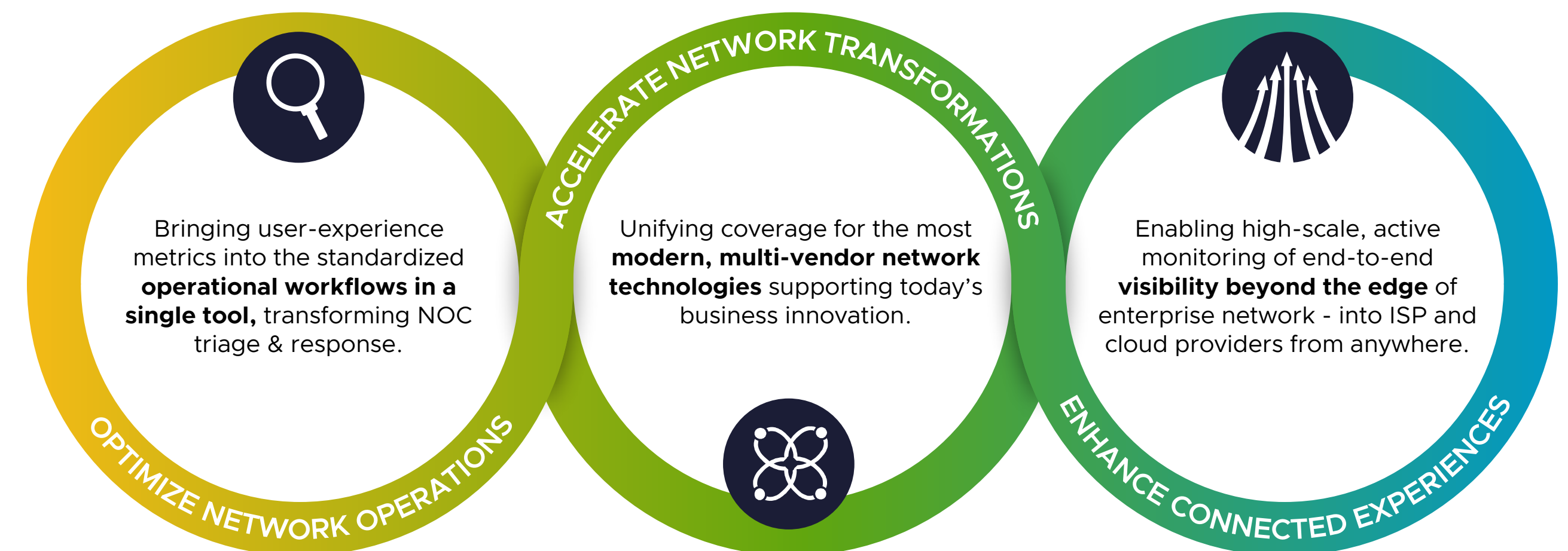
The solution should seamlessly integrate with third-party applications via standard APIs and event streaming platforms like Kafka.



THE THREE ADVANTAGES OF END-TO-END NETWORK VISIBILITY

In today's modern networks and business environments, your teams need a unified understanding of network topology. Teams must be able to monitor end-to-end data delivery—no matter who owns the transport and where it goes.

By harnessing the power of network observability, your teams can achieve several key advantages.





OPTIMIZE NETWORK OPERATIONS

Large heterogeneous networks produce a lot of noise. Advance network observability solutions cut through this noise, empowering network operations teams to focus resources on what matters and take steps to reduce risk, preempt problems, and optimize end-user experiences.

With these solutions, you get the full picture, with a unified topology of both internally and externally managed networks, regardless of what vendor technology is deployed. You can leverage advanced analytics and automation to reduce alarm noise, diagnose problems at the source, and resolve them faster—even when the fix is outside the data center. Proactive insights provide trends across diverse, high-scale, multi-vendor data sets, so you can avoid issues and anticipate your evolving network needs.

ACCELERATE NETWORK TRANSFORMATIONS

Business needs change fast. With network observability solutions, you can ensure your network stays one step ahead. By establishing end-to-end-visibility across hybrid, multi-vendor networks, you can deliver projects more predictably and accelerate digital transformation efforts.

With these solutions, you can monitor and optimize your network operations, whether transport runs on-premises, in public or private clouds, or any combination. With the right tools, your teams can rapidly scale and extend performance monitoring across any technology, without having to introduce manual workloads or new toolsets. Ultimately, network observability solutions can help reduce the risks associated with dynamic and distributed network infrastructures.

ENHANCE CONNECTED EXPERIENCES

Cloud environments and the internet represent vital extensions of your enterprise network—you need monitoring coverage that reflects that reality. Network observability solutions bring third-party network and user experience insights into the NOC, so you can guarantee your customers get optimal network and application performance—no matter where they are.

Advanced solutions employ both active and passive monitoring to ensure network resources are operating at optimal levels, across both internal and external, third-party networks. Network operations teams can quickly pinpoint issues that affect the performance of business-critical networks and applications, all the way down to the individual end-user device.

CHOOSING THE RIGHT SOLUTION PROVIDER

The right technology solution provider serves as a strategic partner and will be instrumental in your organization's ability to maximize the outcomes of network observability. Look for these key attributes in a vendor.



ADVANCED, ADAPTABLE SOLUTIONS

Search for a provider that offers modern, comprehensive, and flexible network observability solutions, so you can address the demands of today's networks and quickly adapt to meet tomorrow's challenges. Look for a vendor that can help you get the full picture, with a unified topology of users' connectivity paths, regardless of what vendor technologies and environments they flow through.



PROVEN ENTERPRISE-GRADE SCALABILITY

You should aim to work with a provider that has proven success in delivering the scale required to support the world's largest, most complex organizations. The vendor's network observability solution must demonstrate the ability to significantly reduce costs and fuel superior network connectivity, performance, and experiences.



DECADES OF DOMAIN EXPERTISE

Look for a provider with deep expertise and a long history of supporting successful network monitoring, observability, and management implementations. Find a provider with a track record of thought leadership and delivering innovations that enable customers to stay in front of rapid technological evolution.



TRUSTED STRATEGIC PARTNER

Fundamentally, you want to work with a dependable provider, a business known for successful strategic partnerships with global organizations. The provider you choose should have a proven track record of delivering network performance and experience assurance solutions that support the most critical networks in the world.



EVALUATION: KEY QUESTIONS TO ASK POTENTIAL SOLUTION PROVIDERS

OPTIMIZE NETWORK OPERATIONS

When networks or applications are not performing as expected, pinpointing the root cause can be a challenge. How can your solution handle this?

How can your solution boost our team's effectiveness in managing our troubleshooting workflows?

When our network is blamed for an issue, how can your solution effectively demonstrate whether our systems are actually at fault?

ACCELERATE NETWORK TRANSFORMATIONS

How can your solution help me detect and troubleshoot performance issues before, during, and after transformation projects?

How can your solution effectively verify if my current environment will accommodate our planned transformation?

How can your solution help us mitigate the risk of negative end-user experiences during a transformation?

ENHANCE CONNECTED EXPERIENCES

Our IT teams struggle to understand what the experience is like for end users accessing our critical applications and networks. How can your solution help us find and fix end-user experience issues?

When an end user has a performance issue, can your solution help us quickly resolve issues and determine who else might be affected?

When users can't access key services, it impedes our organization's ability to address our important strategic initiatives. Can your solution help us effectively resolve, and even prevent, issues that affect end users?

HOW BROADCOM CAN HELP

Today, Broadcom and its network observability solutions can help your network operations teams reduce complexity, boost operational efficiency, and facilitate rapid digital transformation. As a result, we can help you achieve your most critical business objectives. Broadcom delivers the deep expertise and advanced capabilities that enable customers to understand, optimize, and adapt the complex, hybrid networks they rely on.

Network Observability by Broadcom is the enterprise-grade solution for modern, heterogeneous networks. The solution provides unified, advanced monitoring and remediation across any technology, any vendor, and any network—at any scale.

The following sections explore how our customers leverage this advanced solution—and achieve breakthrough gains as a result.



HCA HEALTHCARE

AI-DRIVEN NETWORK OPERATIONS REDUCE ALARM NOISE BY 99.99%

For decades, HCA Healthcare has continued to expand its usage of diverse networks and networking technologies. But their increasingly dynamic and complex networks introduced visibility gaps, and left IT teams contending with lengthy troubleshooting efforts. By employing Network Observability by Broadcom, the organization was able to gain a highly scalable unified data model, advanced analytics, and intelligent triage workflows. With the solution, the team can reduce alarm noise, speed triage, and more effectively manage their complex networks.

[READ THE HCA HEALTHCARE CASE STUDY.](#)

FIS

EXTENDED VISIBILITY ENABLES 95% FASTER TRIAGE

The network team at FIS grappled with ensuring optimized network service delivery, including when user traffic is reliant upon networks that reside outside the traditional borders of the enterprise. To address their network operations challenges, FIS implemented Network Observability by Broadcom to gain unified visibility of legacy networks, SD-WAN, and user experience. As a result, they were able to reduce SLA breaches and penalties, accelerate triage by up to 95%, and improve customer satisfaction.

[READ THE FIS CASE STUDY.](#)

KYNDRYL

BOOSTS MONITORING SCALE BY 50%, OPTIMIZES SD-WAN PERFORMANCE

Modern networks introduced fundamental new realities for the IT operations team at Kyndryl. This led to challenges in ensuring optimized user experiences, especially as user traffic gets increasingly reliant upon a complex mix of legacy infrastructure, SD-WAN, cloud, and ISP networks. With Network Observability by Broadcom, the network team at Kyndryl can monitor connections between data centers and cloud services and between hybrid workers and cloud environments. As a result, Kyndryl was able to reduce alarm noise, accelerate root cause analysis and resolution, and improve monitoring scale by 50%.

[READ THE KYNDRYL CASE STUDY.](#)

A person in a dark forest, seen from behind, looking at a glowing network visualization. The network is composed of numerous bright blue nodes connected by thin lines, creating a complex web that spans across the forest. The background is a dark, misty forest with tall trees and some people in the distance, suggesting a large-scale, complex environment.

START HARNESSING THE POWER OF NETWORK OBSERVABILITY. **HERE'S HOW.**

The quality, reliability, and performance of your network have a direct impact on the value your organization creates and delivers. Today's networks are complex and sprawling, with diverse technologies from multiple vendors operating both within and outside of your data center's four walls. You need to be able to see every hop, manage every risk, and understand how all of it affects your end users. You need a partner that will help you do it all with a lean team, at a large scale, and in a rapidly evolving market.

Network Observability by Broadcom is a comprehensive and adaptable solution designed to support today's networks and meet tomorrow's challenges. With solutions proven to deliver coverage that spans from the data center to the cloud, and beyond, Broadcom enables your teams to understand, optimize, and evolve your complex, hybrid networks.

YOUR NEXT STEPS

To learn more, be sure to visit the **Network Observability by Broadcom** page, where you can connect with a Broadcom network observability specialist. You can also get more information on how we can help you optimize network operations, accelerate network transformations, and enhance connected experiences.

[VISIT NETWORKOBSERVABILITY.BROADCOM.COM](https://www.broadcom.com/networkobservability)