VIAVI Solutions

Network Monitoring Technology

ACHIEVING IT OPERATIONAL EXCELLENCE WITH FEWER METRICS AND MORE CLARITY IN A UNIFIED SOLUTION

CONTENTS

INTRODUCTION

Networks are the lifeblood of today's leading organizations. Addressing modern network complexity while simultaneously taking network performance to the next level is both a challenge and an opportunity. The right observability solutions make it easier to safeguard performance while troubleshooting complex cloud environments seamlessly.

Network performance is all about results. If any element of the network or service architecture suffers, app delivery can quickly degrade, taking customer satisfaction and business profitability down with it. If networks remained static, the challenges would be easier to manage, but with enterprises spanning into private cloud, public cloud, and edge locations, and continually upgrading their in-house data centers and software, staying ahead of the curve can be an elusive goal. Add to this mix the ever-evolving list of cybersecurity threats to be addressed and you quickly realize why comprehensive observability is a must.

Operational excellence requires every employee to participate in the flow of value to customers, while business innovation is the ability to conceive, develop, deliver, and scale new products consistently. Putting the right monitoring and observability tools and practices into action is the best way to assure both pathways to success are supported by secure, reliable, and efficient network performance.

MAINTAINING OPERATIONAL EXCELLENCE

About **85 percent of CIOs** agree they need to become changemakers, driving both business and technology initiatives simultaneously[1].

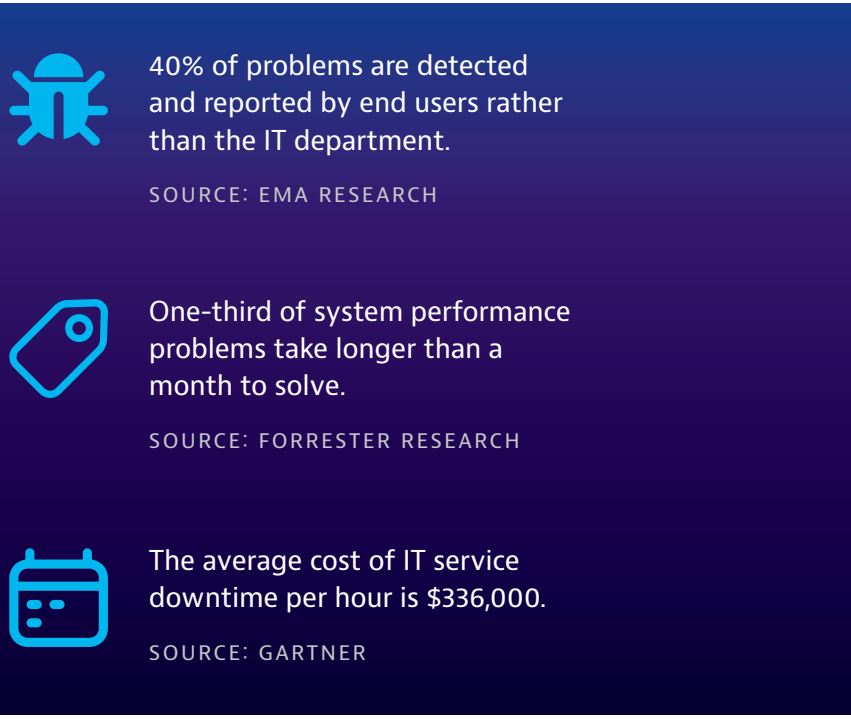
In the past, these goals were often mutually exclusive, with siloed IT teams struggling to mitigate immediate risks while others charted a course for the future. How do you drive operational excellence and innovation simultaneously? The process can be broken into three key components:

1. Successfully manage daily operations. This includes meeting user and client expectations and ensuring your networks and applications are performing well.
2. Mitigate risks that come from planned changes and unexpected events. IT service downtime is not just frustrating to deal with; it's also costly.
3. Solve performance and security issues quickly and efficiently. If a vital service isn't performing correctly, it must be fixed immediately.

If left unaddressed, these challenges can strain an organization's budget and resources while hurting their credibility with end-users and upper management. That's why a comprehensive observability solution to safeguard network performance and mitigate threats is critical for ensuring operational excellence.

Flexible network monitoring tools streamline enterprise innovation by ensuring efficient, reliable, and secure network performance essential for operational objectives. Integrating multiple network observability tools into a single platform significantly enhances efficiency by simplifying management, increasing visibility, and reducing the complexities of using disparate systems. This unified approach streamlines workflows, reduces errors, and improves network security. Consolidation allows enterprises to focus on strategic initiatives and innovation, confident that their network infrastructure is managed comprehensively and effectively.

1. Source: CIO Magazine



MANAGING DAILY OPERATIONS: NETWORK PERFORMANCE FROM THE END-USER PERSPECTIVE

A business can't ignore their daily operations to focus on integrating new technologies. Maintaining network functionality is a vital part of keeping an enterprise running smoothly, and a network that isn't performing optimally can be a huge drain on business resources.

Simply remaining operational isn't enough anymore. The network needs to meet the dynamic needs of enterprises and IT departments while satisfying customers. Monitoring from the end-user perspective allows IT teams to prioritize their efforts by focusing on issues that are directly impacting users. This means collecting, distilling, and interpreting multiple sources of network data to identify issues that influence the user experience, regardless of the cause.

Websites and applications are perfect examples: A company website is often the first interaction an end-user has with your business. If the website is performing slowly or erratically, there will be a disconnect between your enterprise and the user. It doesn't matter to users whether latency or outages are caused by the network, server, or cloud application. They simply want it fixed.

Business users also expect seamless performance from unified communications (UC) platforms delivering VoIP, video, and file sharing services. Focusing on the end-user experience means analyzing metrics that drive business value, including revenue, productivity, and customer loyalty.

MITIGATING RISKS: DEALING WITH NETWORK DOWNTIME

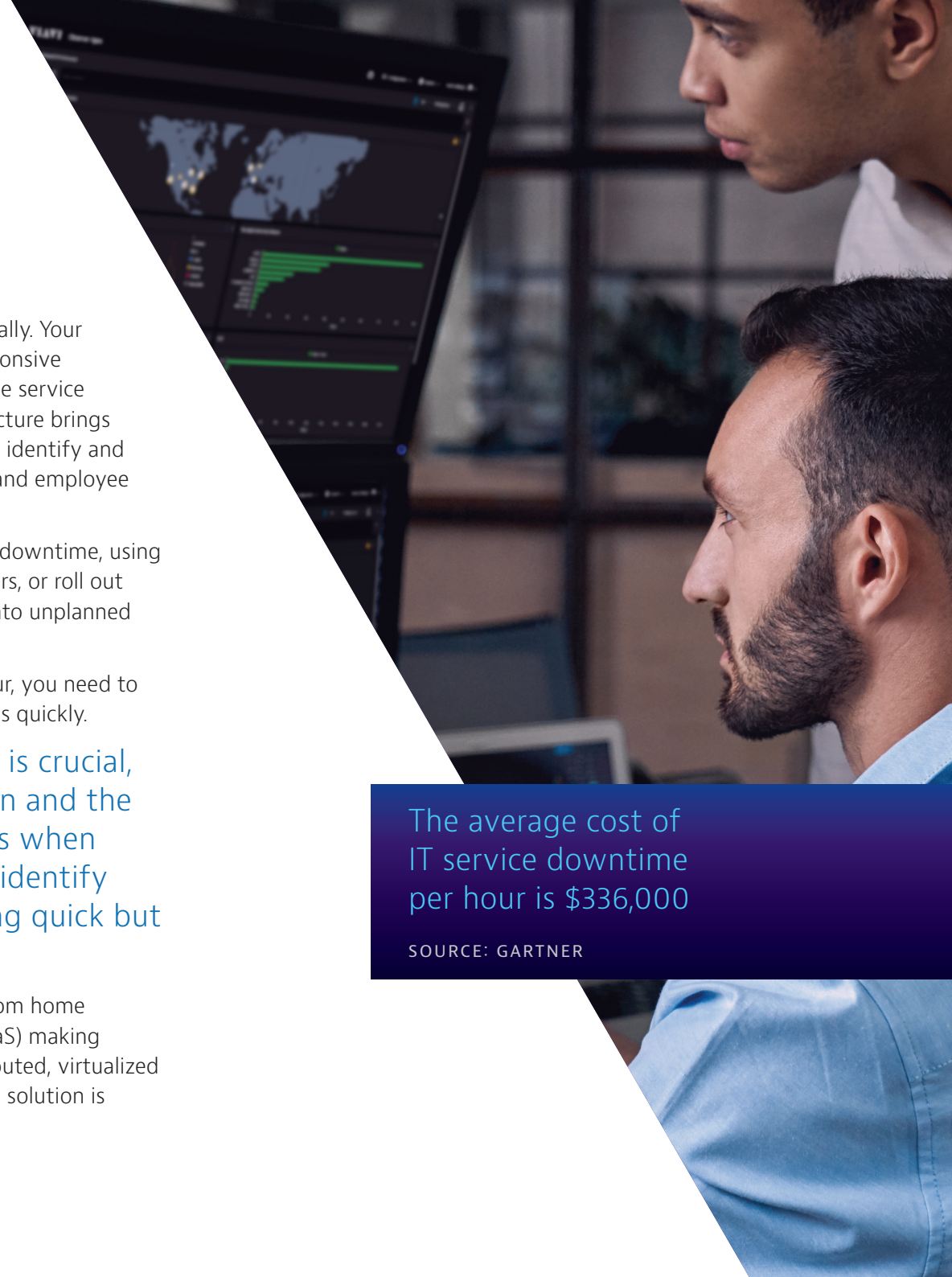
Everyone is happy when critical IT services are performing optimally. Your employees get more work done while your customers enjoy responsive transactions. It is the job of every IT department to ensure reliable service delivery is the norm. Observability into complex network architecture brings greater confidence in network performance, allowing IT teams to identify and mitigate issues long before they lead to outages or disrupt user and employee service delivery.

Improved visibility also allows you to make the most of planned downtime, using these valuable opportunities to upgrade hardware, migrate servers, or roll out new applications to enhance your offerings without extending into unplanned time for service and maintenance outages.

When the worst-case scenario of an unplanned outage does occur, you need to have both the processes and solutions in hand to rectify problems quickly.

While preventing downtime on your network is crucial, true preparedness comes from having the plan and the proper tools readily available for the instances when downtime happens. Your enterprise needs to identify and respond to problems in real-time, applying quick but effective remedies to fix the issue.

The root cause of network problems can be elusive with work from home (WFH), private cloud, hybrid cloud, and software as a service (SaaS) making troubleshooting more challenging. With networks that are distributed, virtualized or even outside your view, the right data sources and monitoring solution is needed to replicate and isolate issues quickly.



The average cost of IT service downtime per hour is $336,000

SOURCE: GARTNER

SOLVING NETWORK ISSUES: NETWORK SECURITY AND PERFORMANCE TROUBLESHOOTING

The scope of cybersecurity threats is constantly evolving. New threats and tactics are being developed all the time, even as cybersecurity solution providers attempt to counteract them. As such, the need to maintain security for all your IT solutions, including your network and applications, is undeniable.

Data and information stored on a network is often business-critical and/or sensitive. Businesses must protect that information at all costs. This protection must cover both outside threats attempting to invade the network and internal security gaps.

Security threats don't just affect your enterprise's safety; they can also be a major influence on a network's performance. If your infrastructure isn't secure, harmful actors may enter your network and target specific applications or devices.

If these areas are compromised or become unavailable, performance will inevitably suffer as a result. A telltale sign of threats is unusual data usage. Spikes in traffic or bandwidth usage might indicate that malware has entered your network and is draining resources.

When a security breach occurs, your team needs to be ready. Using a monitoring tool to proactively detect abnormal behavior on your network, you can determine where the traffic is coming from, the level of impact, and what files have been exfiltrated. This allows network and security teams to quickly collaborate and more effectively resolve the issue.

TYPES OF SECURITY THREATS

EXTERNAL HACKERS

UNSECURED DEVICES

MISUSED NETWORK

OBSERVER: THE NEW AGE OF NETWORK OBSERVABILITY

Today, as IT collectively migrates to the cloud and remote work has become commonplace, customers are facing new network observability challenges. What's needed to optimize operations or identify and resolve issues quickly is the ability to see cloud hosted or hybrid environments from the inside out.

With Observer, VIAVI delivers an integrated platform that addresses these challenges and helps you proactively adapt to the ever-changing IT landscape. Observer gives you a flexible solution to deliver the level of observability you need, wherever and whenever you need it. Dedicated observability tools for packet capture and analysis, enriched flow record generation, and threat exposure management come together in a modular platform with an advanced, centralized, user interface that proves the whole can truly be greater than the sum of its industry-leading parts.

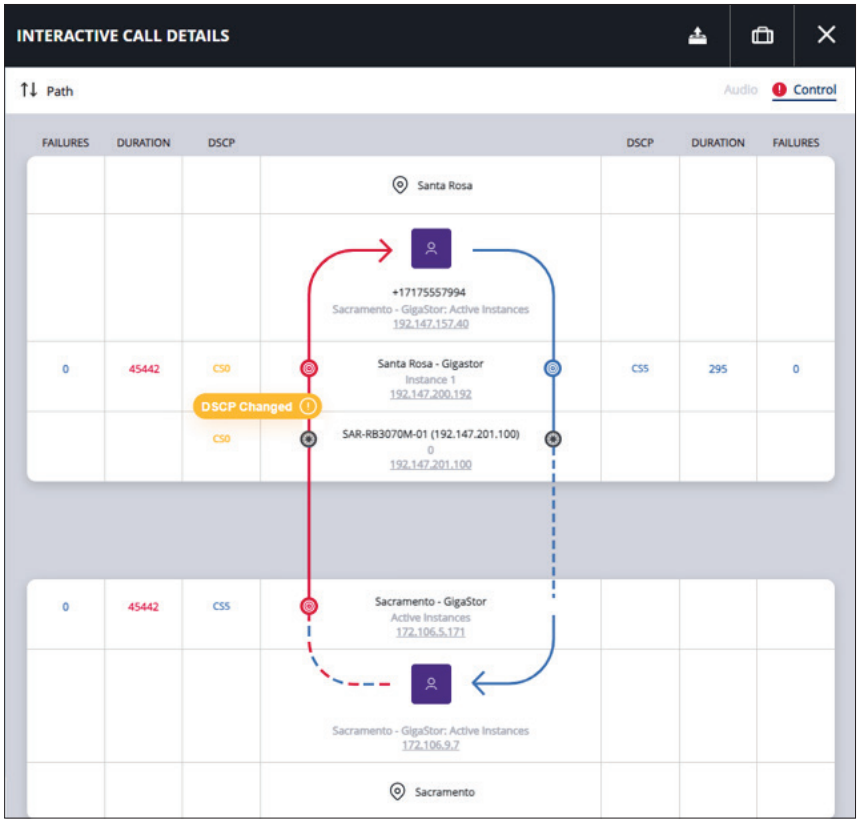
What's new with The Observer Platform? We continue to build upon the solid foundation rooted in enhanced visibility through the combination of packets, metadata, and enriched flow records. The addition of our patented end-user experience scoring marked a significant upgrade in observability and troubleshooting prowess. Powered by machine learning-driven algorithms that consider over 30 network KPIs, quick and accurate issue identification is leading to vastly improved issue prioritization and MTTR.

Deep packet inspection-based application identification, interactive UC call visualization, digital certificate analysis, Amazon Web Services (AWS) VPC Flow Logs and Azure NSG flow log ingestions are among the exciting new Observer capabilities now pushing the boundaries of observability. This trend will continue as newly discovered blind spots are countered by improved cloud visibility and predictive analytics.

There is no shortage of available metrics, but the path to next-level observability is lightened when you know which metrics to monitor, and how to interpret them. At the same time, SecOps teams, network engineers, and network architects can only deliver next-level performance management when they continually adapt to new topologies and mine new data sources. With that in mind, solutions that proactively shed light on complex cloud and hybrid cloud network performance do more than simply monitor as they eliminate blind spots and reduce mean time to resolution (MTTR).

UNIFIED COMMUNICATIONS CALL DETAILS

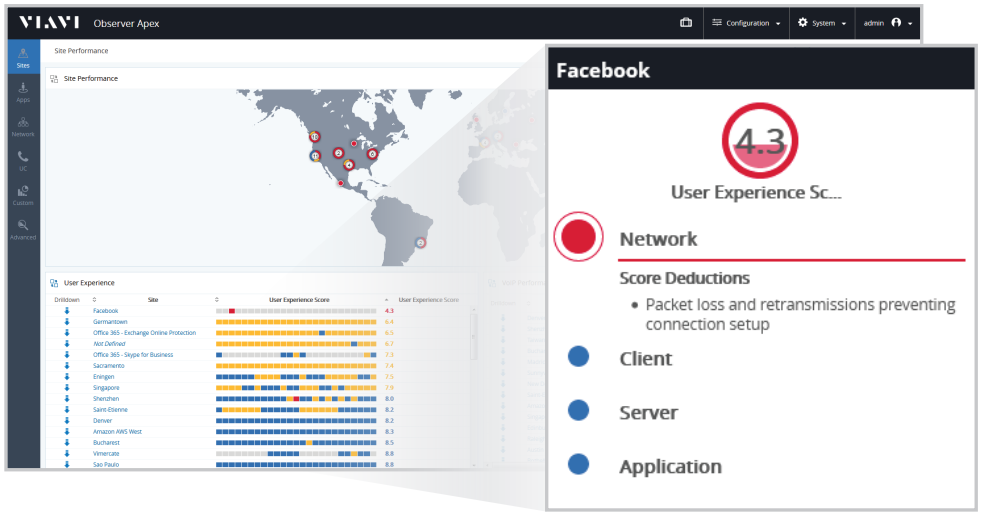
Unified Communications (UC) platforms have become an essential enabler of remote working as they provide a consistent experience across integrated voice, video, and messaging channels. Observer leverages available data to trace individual VoIP calls through the infrastructure that carried the call. When supported by direct packet access, UC interactive call details make it faster and easier to locate and diagnose the sources of call and service degradation.



Interactive Call Details identify root causes of quality degradations

END-USER EXPERIENCE SCORING

Considering the end-user experience above all is a prudent metric prioritization strategy. End-user experience (EUE) scores based on the most important KPIs help to streamline network performance monitoring practices. For network engineers and helpdesk teams, precision visibility comes in the form of EUE scores driven by machine learning and prioritized by domain (Network, Client, Server, and Application) to expedite root cause and issue resolution.



8 – 10 = Good

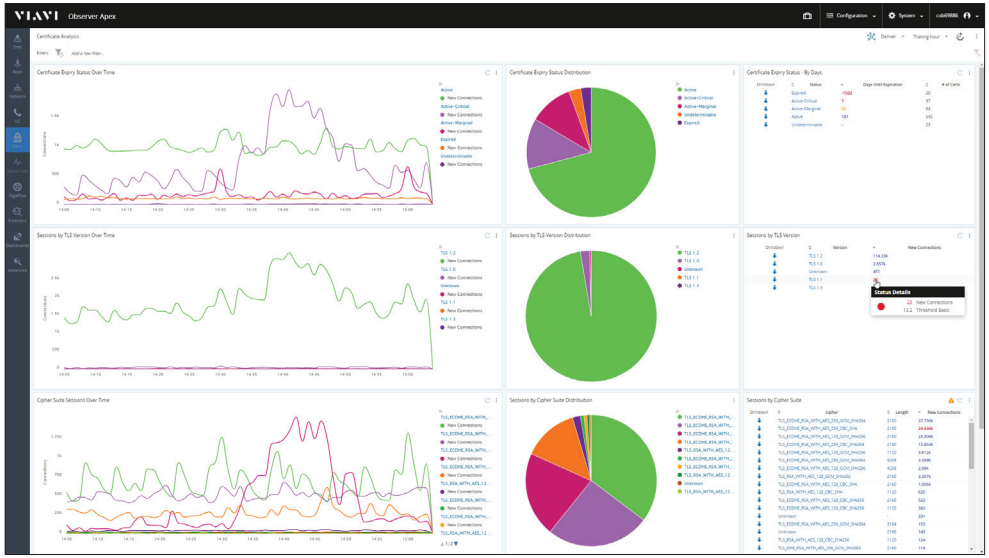
5.1 – 7.9 = Marginal

0 – 5 = Critical

Identify and resolve global, site and user-level issues

DIGITAL CERTIFICATE MANAGEMENT

When digital certificate expiration or the presence of undesired cipher suites go undetected, network security and customer support can be hampered by unexpected client-to-sever exchange issues. These important tasks are managed more expediently with advanced observability solutions. Observer supports next-level network performance management with streamlined certificate expiration checks and usage audits performed over a single, intuitive interface. Customizable dashboards and alarm settings allow for a more proactive approach to certificate management.



Observer's Certificate Dashboard provides an at-a-glance summary of certificate use and expirations

Learn more about the

New Age of Observability

and see the Observer Platform in action at:

viavisolutions.com/Observer

VIAVI Solutions

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