VIAVI

The New Age of
Network Observability

Network Monitoring Technology

ACHIEVING IT OPERATIONAL EXCELLENCE

CONTENTS

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INTRODUCTION

Operating enterprise networks is getting more and more difficult by the day. Businesses rely on their networks to share information that drives productivity, revenue, partnerships, and customer loyalty. However, many still wrestle internally with positioning networks as a mission-critical necessity.

If a network isn't performing at the level required, then it won't be able to deliver on the expectations the business sets for itself or its clients. However, a network isn't a static technology; enterprises must evaluate their network strategies, including if and when to outsource, to meet their evolving demands. New hardware may be required to provide horizontal growth, replace outdated technology, or adopt cloud strategies. Add to this the always-evolving world of cybersecurity threats where new kinds of attacks are created every day and must be planned for.

Networks are the foundation of an enterprise's technology arsenal, whether on-premise or outsourced. The challenge is how to maintain operational excellence while also delivering business innovation through their IT solutions. Your enterprise needs to innovate, but it can't sacrifice basic functionality of mission-critical technologies, applications or business models to do so.

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MAINTAINING OPERATIONAL EXCELLENCE

Today, about **75 percent of CIOs** are struggling to balance operational excellence and business innovation[1]. These are major responsibilities for IT teams and finding a solution that addresses them can be a daunting task. So how do you meet both of these requirements? It's a process that can be broken down into three main components:

1. Successfully manage daily operations. This includes meeting user and client expectations and ensuring that 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 can take a long time to fix.

If left unaddressed, these challenges can cost an organization in multiple ways. Not only do they strain budget and resources, but you also lose credibility with end-users and upper management. That's why a network performance and threat monitoring solution is critical for enterprises to ensure operational excellence.

This eBook explores how network monitoring tools, such as VIAVI Observer, can help enterprises meet their expected operational levels while also giving them room to design cutting-edge solutions to business problems. Observer is a comprehensive network performance monitoring and diagnostics solution that grants businesses the power to maintain peak performance for the network and applications it supports.

1. Source: CIO Magazine

40% of problems are detected and reported by end users rather than the IT department.

SOURCE: EMA RESEARCH

One-third of system performance problems take longer than a month to solve.

SOURCE: FORRESTER RESEARCH

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

SOURCE: GARTNER

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

A business can't ignore managing daily operations to focus on integrating technologies or attempting to innovate. Maintaining network functionality is a critical part of keeping an enterprise running smoothly. Just like any IT service, a network that isn't working properly is a huge drain on your business.

Enterprises rely on networks to achieve success with their digital processes. Since many mission-critical workflows are now done using network-dependent software, IT departments must manage and maintain a network at all times to ensure daily operations can continue.

It isn't enough for a network to be operational anymore; it needs to meet the dynamic demands of enterprises and IT departments while also satisfying end-users. Monitoring from the end-user perspective allows IT teams to prioritize their efforts, manage their time more effectively, and address issues that are actually visible to and impacting users.

Websites and applications are perfect examples. A company website is often the first interaction an end-user has with your company. If the website is performing slowly, there will be a disconnect between your enterprise and the user. Reducing latency and ensuring sufficient bandwidth between your network receiving a request for the website and delivering that request will help improve the end-user experience. Focusing on the end-user experience means analyzing metrics that drive business value, including revenue, productivity, and customer loyalty.

LOW LATENCY
IMPROVED USER EXPERIENCE
INCREASED REVENUE

HIGH LATENCY
POOR USER EXPERIENCE
DECREASED REVENUE

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MITIGATING RISKS: DEALING WITH NETWORK DOWNTIME

Nobody is happy when a critical IT service goes down. Your employees want to get work done and your customers expect responsive transactions. If a service becomes unavailable, it causes frustration in addition to cutting productivity. Every IT department's worst nightmare is a sudden loss of service availability. It's a pain because it not only adds work to their schedule – work that could potentially last several hours, days, or even weeks to completely fix – but it also means complaints from all corners of the enterprise asking what's going on.

However, every IT worker knows that you can't guarantee 100 percent uptime for your network. Even if you reduce unexpected downtime, you will need to manually turn off the network at some point to install new hardware, migrate servers, or rollout a new or updated application. Your IT department will anticipate times it has to shut off the network in advance, so it has time to prepare for that downtime. What happens, though, when you need to extend that downtime for another hour – or five?

While attempting to prevent downtime on your network is crucial, another step in dealing with downtime is having a plan and proper tools for when downtime happens. Your enterprise needs to identify and respond to problems as they happen, applying quick but effective remedies to fix the issue.

The root cause of a problem remains an issue for network operations. With networks that are distributed, virtualized or even outside your view, it can be extremely difficult to replicate and isolate issues without the right data and monitoring solution.

> The average cost of IT service downtime per hour is $336,000
>
> SOURCE: GARTNER

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SOLVING NETWORK ISSUES: NETWORK SECURITY AND PERFORMANCE TROUBLESHOOTING

Unfortunately for businesses and users, the world of cybersecurity threats is constantly evolving. New threats 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 application, is undeniable.

Data and information stored on a network is often business-critical and/or sensitive. Businesses must protect that information. 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 functions or devices. If these areas 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 detect abnormal behavior on your network, you can determine where the traffic is coming from and the level of impact, allowing network and security teams to quickly collaborate and more effectively resolve the issue.

TYPES OF SECURITY THREATS

EXTERNAL HACKERS   UNSECURED DEVICES   MISUSED NETWORK

OBSERVER 3D: 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 lacking is the ability to see inside the cloud hosted or hybrid environments, hindering the ability to optimize operations or to identify and resolve issues.

With the introduction of Observer 3D, VIAVI delivers an integrated platform that addresses this challenge and helps you proactively adapt to the ever-changing IT landscape, Observer 3D gives you a flexible, adaptable platform to address whatever level of observability is required, wherever you need it.

What's new with Observer 3D? First, it builds on our delivery of full fidelity wire data capture – a claim that is independently tested and verified. More recently patented end-user experience scoring was added. Powered by machine learning-driven algorithms that consider over 30 network KPIs for faster, more accurate issue identification that leads to better prioritization and faster issue resolutions.

As systems have grown and increased in complexity, VIAVI went beyond basic flow data to deliver enriched and enhanced flow, stitching together user to MAC to IP relationships with easy-to-access, intuitive visualizations.

There are three main pillars of the Observer 3D Platform:

Location of Services

Data Sources
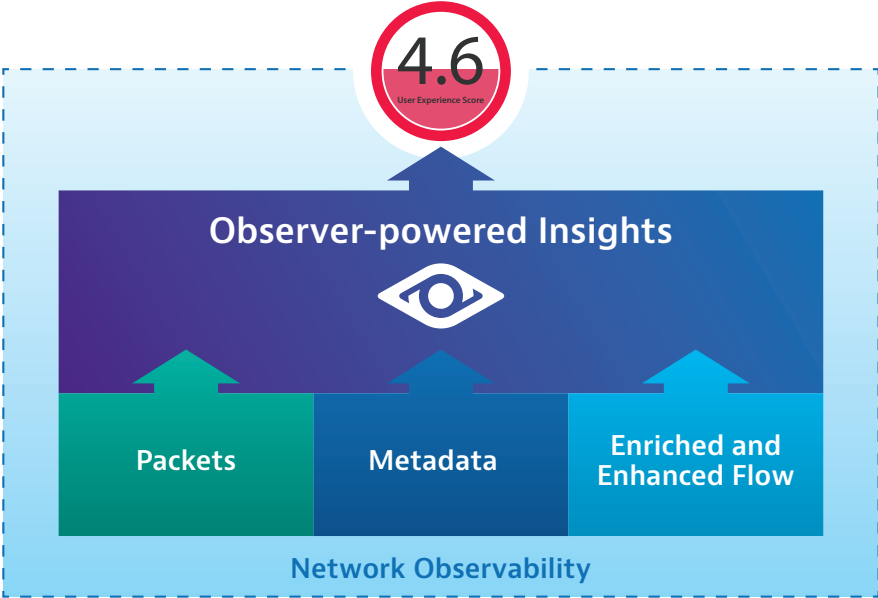
Scale of Deployments

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Location of Services

Observer 3D provides observability in every hosting environment, whether private cloud, public cloud, SaaS applications, remote users, on premise in branch offices or in the data center. No matter the location, VIAVI has you covered. To learn more about how Observer 3D leverages predictive analytics to proactively deliver visibility into performance issues, visit the interactive platform.
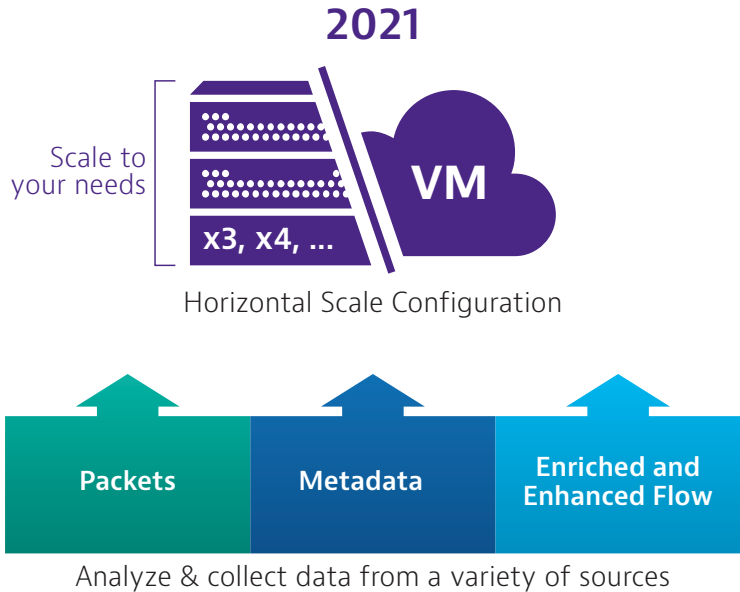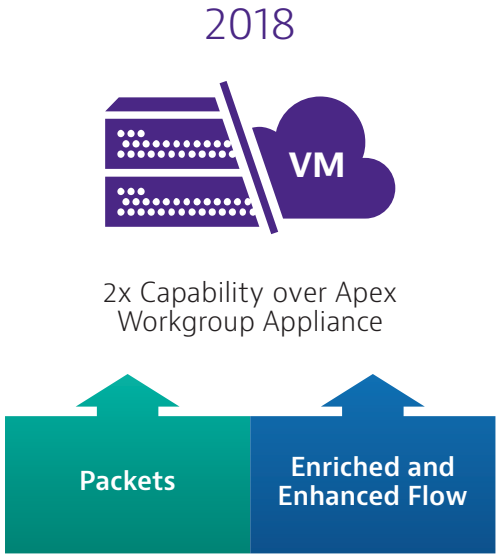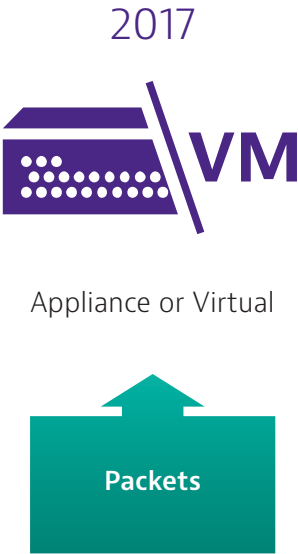
Data Sources

With Observer 3D, choose between a combination of packet, flow visibility, and metadata generation to enable smooth, timely resolution of performance and threat issues. Automated, role-based workflows make it easy to dive down into the network data for forensic level analysis, regardless of the type of data or source.

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Scale of Deployments

Start small and grow as your business and operational monitoring needs change and evolve. Whether that means flexibility in deployment with our GigaStor Branch or ObserverONE solutions, or flexibility in pricing with our new tiered pricing and subscription models—VIAVI has you covered. Buy what you need when you need it using OpEx or CapEx budget, allowing you to balance your observability and budgetary needs without compromise.

2017
VM

Appliance or Virtual

2018
VM

2x Capability over Apex Workgroup Appliance

2021
Scale to your needs

x3, x4, ...

VM

Horizontal Scale Configuration

Packets

Packets	Enriched and Enhanced Flow

Packets	Metadata	Enriched and Enhanced Flow

Analyze & collect data from a variety of sources

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Learn more about the
New Age of Observability
and see the Observer Platform in action at:
viavisolutions.com/ptv/introducing-observer-3d

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