

# VIAVI Observer

## End-User Experience Score

Identify and Resolve End-User Experience Issues in a Single Score

When users complain, engineers can be overwhelmed sifting through a sea of performance metrics to deduce what users experienced and where the problem resides. It can be even more confusing when all indicators are green, yet user experience problems persist. According to Forrester Research, one-third of user complaints linger without resolution for a month or are never resolved.

The VIAVI Observer solution replaces hundreds of key performance indicators (KPIs) with a single End-User Experience Score - eliminating guesswork and troubleshooting dead ends. This patent-pending technology uses packet-level wire data, empowering engineers to validate and solve user experience issues with a single score. It answers user experience questions clearly and concisely, providing all levels of the organization with the confidence that comes with comprehensive IT service operational awareness.

End-User Experience Scores satisfy multiple IT needs from network operations and architects to developers, NOC engineers, and executives by answering critical questions related to business and IT initiatives:

- Are customers satisfied with their experience?
- How has the new data center impacted customer and user experience?
- Did the new cloud deployment strategy achieve objectives?
- Were the application bug fixes effective?
- Is everything functioning as expected?

Engineers can quickly determine:

- Are users being impacted?
- How widespread and/or severe is the issue?
- Is there a potential security threat?
- What's next for triage and resolution?
- What is the root cause?

This is all answered with a single, color-coded score providing in-depth domain breakout, a simple problem explanation, and performance visualizations.



Benchmark and triage issues assessing end-user experience scores globally

## Using Performance Data to Understand User Experience

Quantifying the quality of user interactions with the network and critical services is an incredibly complex process. Traditionally, two approaches are taken to evaluate experience:

1. Single Dimension: Utilizing one or a few performance metrics as a proxy for user experience
2. Data Deluge: Leveraging hundreds of performance metrics across multiple columns and solutions for assessments

Each approach has significant shortcomings that make it a poor substitute for an actual End-User Experience Score.

### Single Dimension:

The vendor performs basic analysis relying on only a few metrics, such as response time, delay, or application errors, to represent user experience. However, with today's complex IT service issues, this is often ineffectual and leads teams to incorrect resolution dead ends.

### Data Deluge:

Alternatively, other network performance management solutions bury IT teams with hundreds of KPIs. Too much data with no correlation or analysis performed of end-user impact minimizes any potential value. It also ultimately leaves IT teams frustrated and needing to figure out which metrics are impacting users or services.

## The Observer End-User Experience Score

The Observer Apex End-User Experience Score differs from these two limited approaches by utilizing adaptive machine learning – running hundreds of KPIs through multiple algorithms to create a single score of all TCP network conversations. With this method, the algorithms learn the behavior of applications within a few packets adjusting the score to reflect their unique behaviors.

KPIs are analyzed and summarized into a single, easy-to-understand score with three key components:

- Overall Score: How users experience the service
- Domain: Identification of the network, application, server, or client causing the problem
- Reason: Simple explanation of the problem

## End-User Experience Score Breakdown

Scores range from 0 to 10 and use the following color coding:

**8–10 = Good**

**5.1–7.9 = Marginal**

**0–5 = Critical**

Scores can provide visibility into a single user's experience or expanded to view groups of users defined by site, geolocation, etc. as needed.

Anomalies become clear, false positives disappear, and the noise that frequently masks problems is eliminated. IT teams can save hours troubleshooting by "following the red scores" as they drill up, down, and laterally via site performance dashboards or three-clicks-to-resolution workflows.

Here's an example:



As seen above, in this case the situation is critical (red) and the network is the source of the degraded service, the root cause being "Long data transfer times at slow speeds". IT teams know exactly where to look and what's needed to correct the issue.

## Scoring Technical Details

Apex automatically analyzes in real-time delays between all packets involved in a network conversation. As each is captured and analyzed, it determines if the delay impacted the end user and records the information. At the end of the conversation, Apex identifies the root cause of any detected performance degradation. It then scores the conversation based on the IP pair and application, presenting the results as a single End-User Experience Score.

## Every Packet Matters

End-User Experience Scores are only as accurate as the underlying data on which it is calculated. In other words, every missed packet has real-world implications on the ability to troubleshoot service issues. Observer assures accurate visibility on every network conversation by capturing all the packets. As the only NPMD solution validated by third-party analysts to capture, store, and analyze 40 Gb streams of traffic at line rate without dropping a single packet, you can be assured Apex will never miss a problem.

## Bottom-Line Business Value

What do all these technical details mean for IT teams? It's about VIAVI Solutions serving as a trusted partner so you can confidently depend on the results presented and achieve exceptional IT customer service.

The VIAVI outcome-driven approach provides the right amount of information in an easy-to-understand format.

Billions of network conversations, can be either rolled-up in a couple of scores, or alternatively display the one questionable conversation—and if desired associated packets—with just a few mouse clicks. All this is accomplished with wire data alone and no complex agent instrumentation.

VIAVI End-User Experience Scores greatly expand the number of IT staff who can leverage the power of wire data, including staff less familiar with network conversation behavior such as NOC operators and tier 1 support.

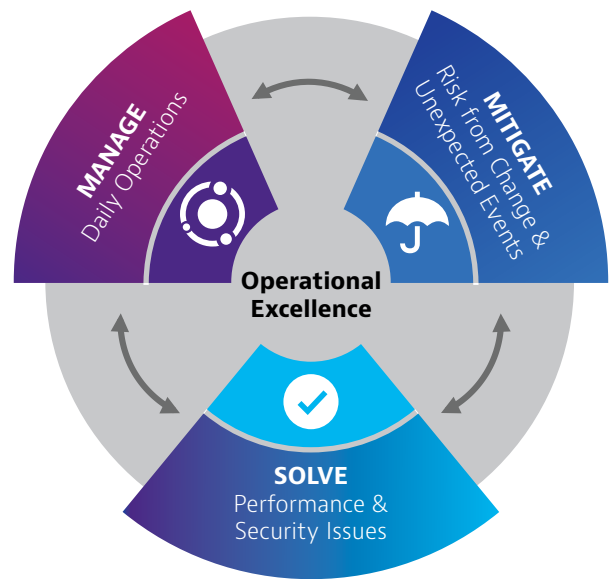
By streamlining the network management processes of IT staff involved in monitoring, triaging, and troubleshooting, teams can more effectively optimize and tune resources before conditions move from good to unacceptable or critical.

## Observer Overview

Observer is a comprehensive network performance monitoring and diagnostics (NPMD) solution that offers valuable insight and assistance to network, operations, and security teams.

As the central dashboard and reporting resource, Observer Apex serves as the launch point with pre-engineered workflows for navigation into either GigaFlow or GigaStor for real-time or historical perspectives into service health.

Observer is ideally suited for satisfying business goals and overcoming challenges across the entire IT enterprise lifecycle.



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