



# PacketPortal Intelligent Visibility with 10 GE Smart SFPs

**Increasing metro and aggregation network monitoring and troubleshooting with 10 Gbps capable smart SFP end points**



PacketPortal® from Viavi Solutions® is a cloud-based application that combines data capture from hardware probes throughout the network, delivering inline intelligence to any monitoring, management, or business application. PacketPortal lets you see the network the way you've never seen it before; the way your customers experience it.

The PacketPortal solution consists of management software and a family of 1 and 10 Gigabit Ethernet smart SFP and smart SFP+ transceivers. The focus on PacketPortal Intelligence Visibility capability of the 10 GE SFP+ transceivers.

The 10 GE smart SFP+ modules can be cost-effectively deployed throughout edge and metro networks for proactive Ethernet network monitoring and troubleshooting and expands the addressable assurance applications for mobile and business Ethernet and enterprise customers. The evolutionary small form factor module with 10 Gbps optical interface in a ubiquitous SFP+ standard form factor provides network operators access to packets and data at any point in the network where SFP+ modules are currently used.

## Key Features

- Decoupled data collection and management for dramatic reach, visibility, and scale
- Virtualized configuration, management, and aggregation of data feeds
- Secure, authenticated, and encrypted communications to protect the network
- Extensible platform powered by an open API and Developer's Toolkit to fuel applications and tools
- Green: reduced cost, footprint, and energy consumption
- Auto-discovered, self-configured cloud accelerates rollout, ROI, and reduced OpEx
- Extended packet-capture capabilities from the edge of the network to the metro and aggregation layers

## Key Benefits

- Monitor high-bandwidth 10 GE circuits with advanced packet capture, filtering, and analysis
- Improve the customer experience with proactive monitoring of subscribers, applications, and content from anywhere in the network
- Gain valuable intelligence to optimize performance, improve troubleshooting, and introduce new services
- Eliminate monitoring ports, taps, costly overlay networks, and remote packet inspection appliances
- Realize a risk-free return on investment (ROI) and increase the value of existing tools and applications
- Instantly reach critical information anywhere in the network on an unprecedented scale
  - Turn standard SFP ports into packet collection probes
  - Collect intelligence for monitoring, management, and business applications

## Applications

- Metro access and aggregation
- IPTV service quality monitoring
- LTE mobile- and data-network monitoring and troubleshooting
- IP network monitoring and troubleshooting
- Ethernet/IP performance and SLA management
- Network security and customer analytics monitoring
- Managed enterprise monitoring
- Revenue-generating new service deployments

Viavi smart SFPs redefine how and where operators can gather packets throughout today's networks by eliminating the limitations associated with dedicated packet capture resources. smart SFPs may be plugged into any SFP-compatible elements such as switches, routers, DSLAMs, and OLTs at the network edge. In metro or transport network aggregation points, smart SFPs can be used throughout the network to replace any standard SFP and include monitoring and troubleshooting capabilities along with a standard optical transceiver. This eliminates the need for dedicated equipment through our approach to combining virtualized management and packet visibility with inline optical interfaces in a small footprint SFP transceiver, which provides more economical deployments, savings on space/footprint and power requiring less equipment and providing an on-demand troubleshooting tool ubiquitously located throughout the network.

This unique Viavi solution captures and traces packets as they traverse the network to isolate problem elements using live traffic (LivePM™), in real time, as your customer experiences. **The new 10 GE smart SFPs provide network operators unparalleled visibility into their customer's actual voice, video, and data traffic behavior, a capability that is completely invisible today without cumbersome dedicated equipment or a truck-roll after the fact!** By passively analyzing real-time traffic with PacketPortal smart SFPs customers gain a better understanding of application distribution, traffic bursts, traffic patterns and can troubleshoot individual network segments and network elements to quickly identify problems in real time, arming them with necessary information to improve their customer's QoE.

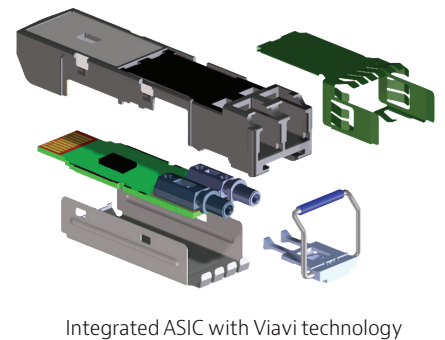
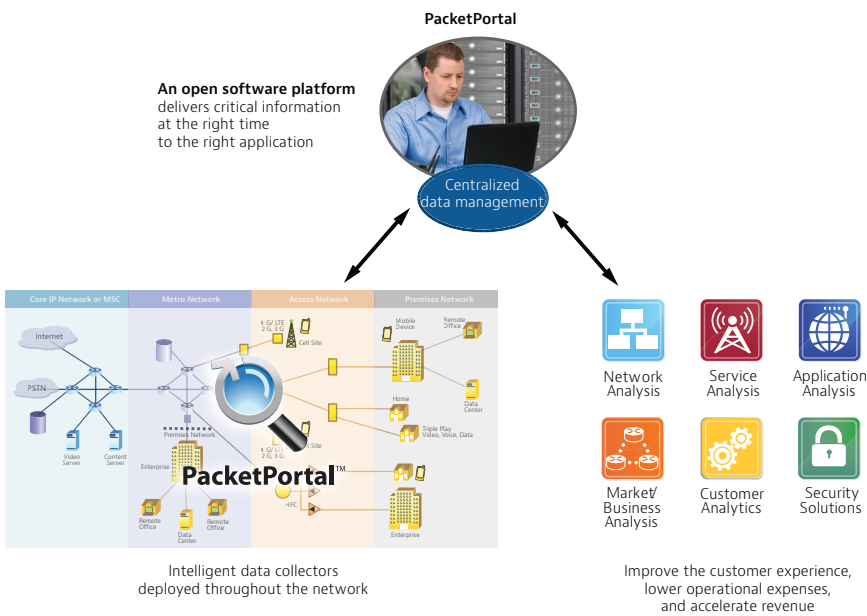
## Solution Overview

Our PacketPortal solution is a software platform that uses passive, inline SFP/SFP+ transceivers to selectively copy and forward packets from an Ethernet network to a target application. Due to its revolutionary form factor, it can be affordably distributed where traditional tools are not practical; it lets network operators and managers access packets and data at any point in the network where optical SFPs are used.

The 10 GE PacketPortal Intelligence Visibility (IV) smart SFP examines packets at full-duplex line-rate speeds, supporting 10 GE connections. It identifies packets of interest that are then copied from the network, accurately time-stamped, encapsulated into a results packet, and inserted back into the network for routing to the targeted application—all without causing loss or disruption to the original flows.

## The PacketPortal IV smart SFP Transceiver

A PacketPortal IV smart probe consists of proprietary embedded technology in an industry-standard SFP/SFP+. It redefines how and where operators can gather packets throughout today's networks by eliminating the limitations of SPAN-port, tap, aggregator, or mirror-port availability and locations. They can replace any standard 10 GE SFP, adding PacketPortal intelligent packet collection capabilities to any network element. smart SFPs turn any SFP port, at any location, into an intelligent remote monitoring port. Packets may then be forwarded to any instrument, monitoring, management, or business application for analysis or collection.



## Data and Packet Acquisition

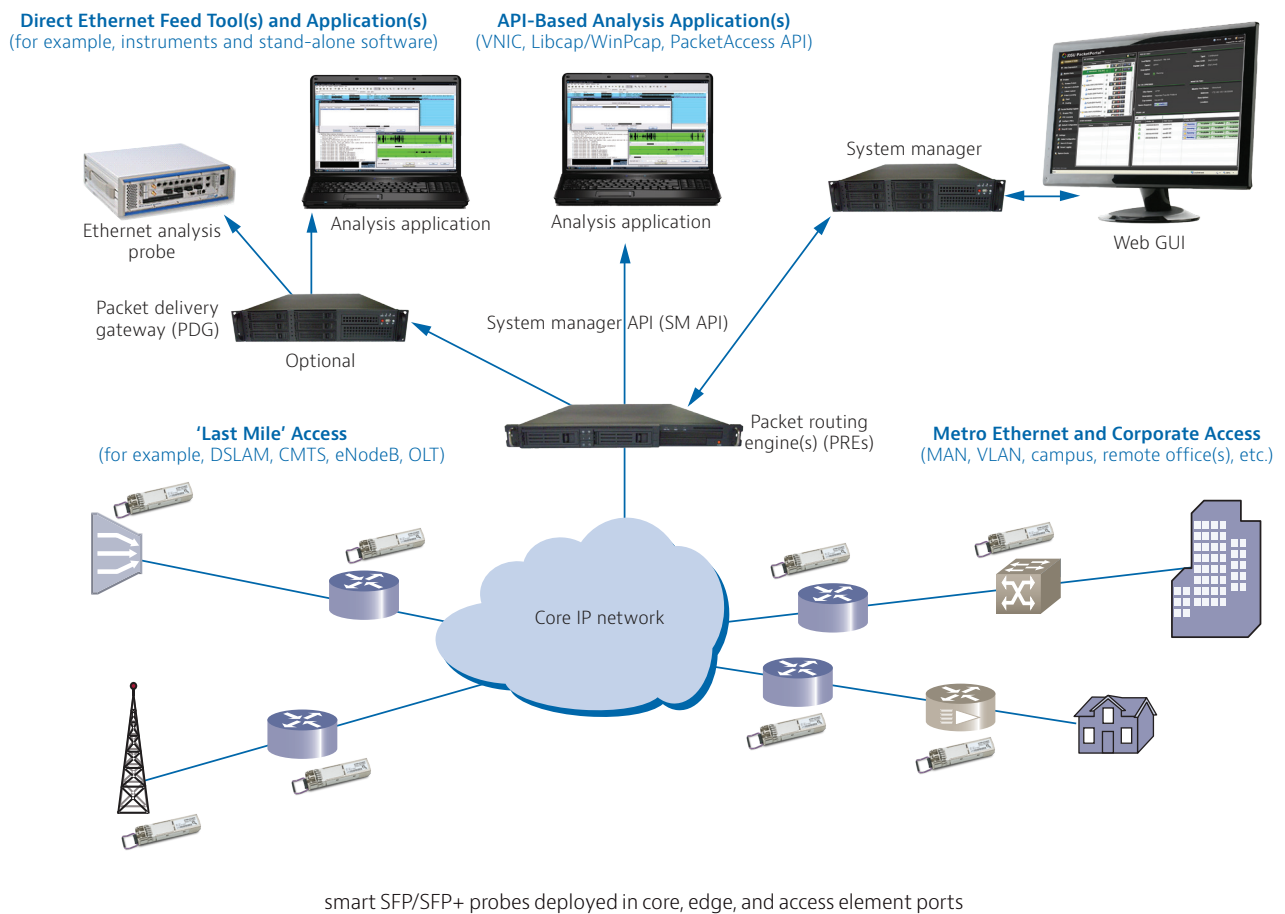
The PacketPortal IV smart SFP simplifies the burden of quickly accessing critical network data. It delivers, on demand, information of interest to the tools and applications that need it by leveraging unused bandwidth on the network being monitored. Costly analysis applications and measurement equipment can now be centrally located and extend their reach all the way to the edge of the network where they can add the most value.

The PacketPortal IV smart SFP is a true inline device that does not require a separate network connection to deliver captured packets. Instead, it incorporates Viavi subchannel technology. The subchannel in the smart SFP allows the system to take advantage of interpacket gaps and unused bandwidth in a network when it needs to communicate or send results. When an idle period is detected, a results packet is inserted into the network for routing back to the system and subsequently the destination applications or tools. The subchannel guarantees no network packets will be dropped while passing through the smart SFP.

## Carrier-Class smart SFP Hardware and System Software

Viavi smart SFPs meet all the same safety, regulatory, reliability, and environmental specifications as traditional SFPs. Operators can confidently deploy smart SFPs knowing that they pass GR-468-CORE, UL, RoHS, FCC, and TUV requirements and have mean time between failures comparable to equivalent optical 10 GE SFPs.

The scalable PacketPortal architecture lets the system grow with the network and customer base. The central SM handles user and element management through an Adobe® Flex web interface. All software is hardened and designed for sustained operation and availability.





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