PULSensor SFP
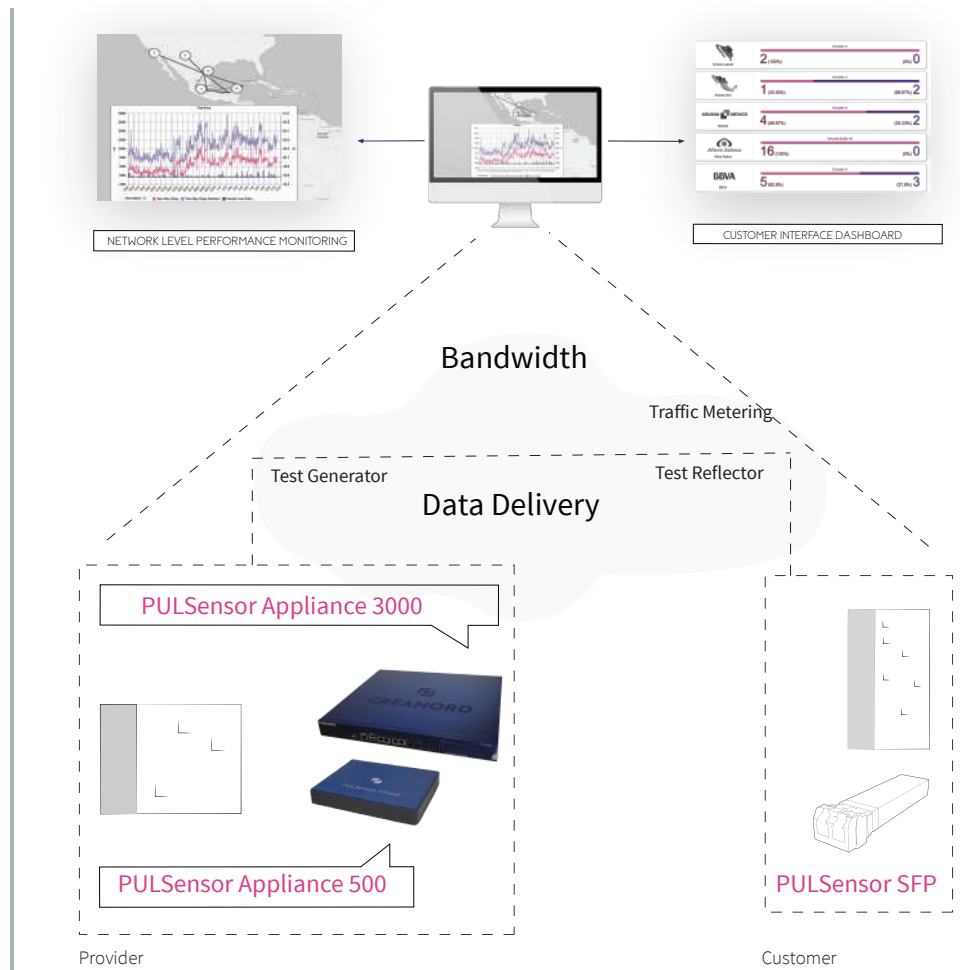
Highlights

☐ Accurate and high rate TWAMP Reflector

▽ Link bandwidth monitoring

○ Service activation testing

☐ Minimal footprint

NETWORK LEVEL PERFORMANCE MONITORING

CUSTOMER INTERFACE DASHBOARD

Bandwidth

Traffic Metering

Test Generator Test Reflector

Data Delivery

PULSensor Appliance 3000

PULSensor Appliance 500

PULSensor SFP

Provider

Customer

Service Assurance with PULSensor SFP

PULSensor SFP is a fully integrated and integral part of Creanord assurance solution, which includes PULScore management platform, PULSensor 3000 Appliance and Virtual. PULSensor SFP complements PULSensor monitoring probes by making it possible to upgrade any equipment to support Two-Way Active Measurement Protocol (TWAMP), Y.1564 Service Activation Test (SAT) loopbacks and Traffic Monitoring.

PULScore provides centralized health and Digital Diagnostics Monitoring (DMM) capabilities for PULSensor SFP as well as per-second Traffic Monitoring for any circuit where a conventional SFP module is replaced with the PULSensor SFP. Intelligence is integrated into an SFP using a field programmable protocol processor (FPGA). This enables future proof Service Assurance without the need for an extra network interface device (NID) at the base station or customer edge. Because PULSensor SFP brings precision measurement capabilities, it provides a means for a unified view of the network. In short, PULSensor SFP is a convenient and low-TCO way to implement OAM and Service Assurance.

Adjacent benefits include zero need for rack space, no additional power, extremely easy installation as well as low maintenance. Creanord can also provide CreaSFPs recoded*, compatible with virtually any Network Equipment brand.

Specifications

Feature	
Wide range of optical transceiver options	Duplex or bidirectional fiber Various optical reaches, up to 80 km
Available operating Temperatures:	Industrial: -40°C to 85°C
Centralized Management	CreaSFP connectivity, status, warnings and alarms Logs, SFP Environmental Diagnostics Firmware upgrade
Digital Diagnostics Monitoring (DMM)	Rx / Tx Power, Laser bias current etc.
Traffic Metering	Per-second Tx / Rx bandwidth utilization, errored frames
Centralized Inventory and Discovery	Device identity, MAC, Serial, firmware version etc.
Centralized Provisioning	Forwarding mode RxLOS Forwarding Loopbacks
CreaNODE Advanced Policies	TWAMP Advanced UDP Echo Advanced

Features

Feature	
Gigabit line-rate SAT loopback	L4 mode, supports both Y.1564 and RFC 2544 packet formats MAC, IP and UDP swap

Two-Way Active Measurement Protocol (TWAMP) RFC 5357 reflector	Continuity, Loss, Delay and Delay Variation Nanosecond hardware timestamp accuracy Multiple parallel sessions IEEE 802.1Q VLAN, C-VLAN and S-VLAN support

UDP Echo Loopback

EchoVault Traffic Metering
support

Low latency Gb/s throughput at wire speed

Jumbo frame support up to 9600 bytes

Upgradeable Protocol Processor

In-Band and Out-of-Band measurements

SFP Installation Options

The CreaSFP 200 In-Band operation allows you to replace traditional small form-factor pluggable transceiver with an intelligent SFP that fully complies with multi-source agreement (MSA) standard and your network element brand specific requirements. When installed in-line, traffic flows trough the module, allowing granular traffic monitoring in addition to precission end-to-end measurements and loopbacks. Various optical reaches, up to 80 km are available.

Out-of-Band operation allows you to plug the CreaSFP to the free switch port of your networking device. This easy step upgrades your equipment with intelligent protocol processor purposely built for precision measurements and line-rate loopbacks. This upgrade can be done without interrupting network service and is thus perfect when adding Service Level Agreement (SLA) monitoring to an existing service.