VIAVI Solutions

Solution Brief

VIAVI
Considering R-PHY?
Let VIAVI Simplify Your Transition

With major changes coming to the HFC plant and the signals carried over it, service providers globally will be challenged to maintain their increasingly complex and heterogeneous plants during and after this time of unprecedented transition.

The VIAVI holistic approach to HFC maintenance and performance analysis provides the visibility and insight you need to smoothly transition to the networks of tomorrow. Whether it's rolling out DOCSIS® 3.1, fiber-deep, and/or distributed access architectures (DAA) like Remote PHY, VIAVI is the only source for vendor and architecture-neutral solutions which can enable consistent and repeatable test practices as these plant changes are rolled out.

Why VIAVI For Your DAA Rollouts?

- **Complete Portfolio**: VIAVI enables end-to-end network coverage from ingest through in-home testing, including StrataSync to tie it all together.
- **Designed for DAA**: Not just a collection of point solutions, VIAVI has designed systems and instruments to work together to simplify monitoring and maintenance of your entire network. Providing a consistent workflow and user experience in legacy and DAA networks simplifies the transition to future network technologies.
- **Industry Leadership**: In addition to being first to market with solutions at all major HFC inflection points, our solutions have proven the easiest to roll out due to extensive work with early adopter MSOs during their technology planning and early development phases.
- **You Still Need to Test**: Even as amplifier cascades get shorter, customers will continue to tinker with their home wiring, cars will still be hitting utility poles, and squirrels won't lose their appetites. Some longstanding problems will reduce in frequency/severity, but most will remain. The networks of tomorrow will still require test, and VIAVI has you covered with solutions for the unique test requirements that they will present.

Benefits

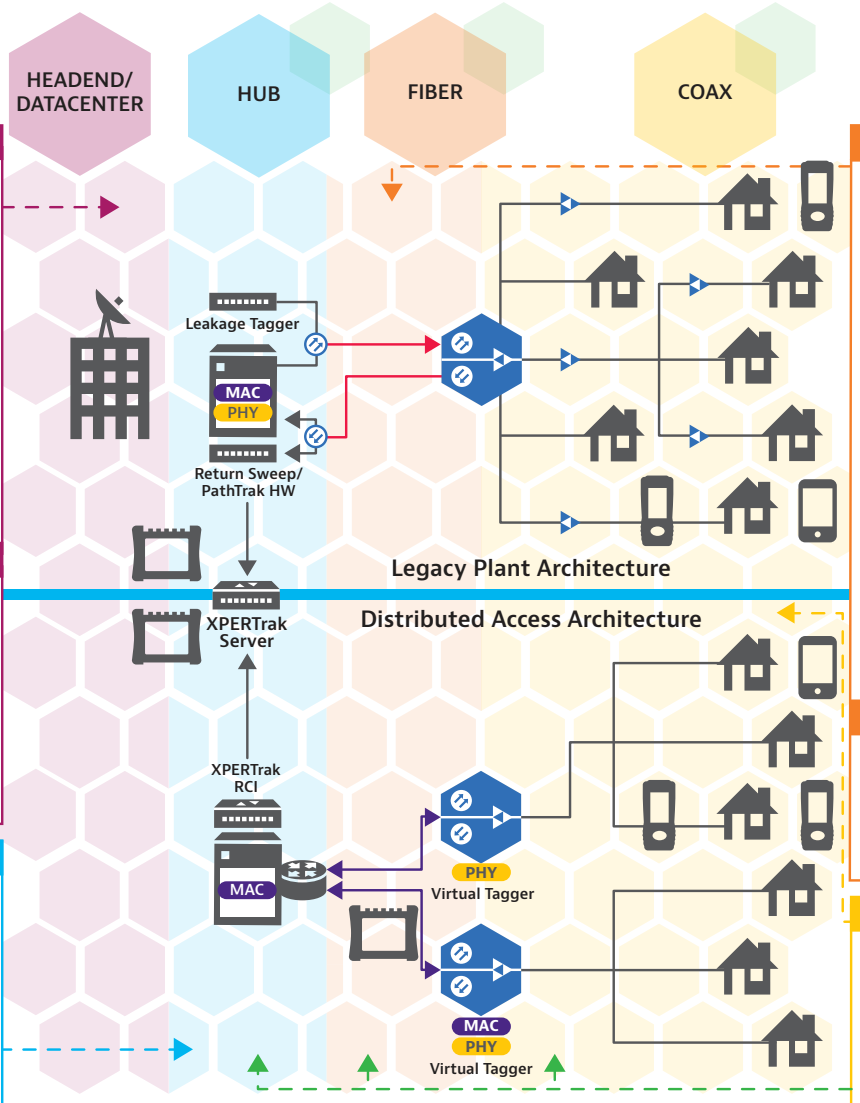
- Enables continuity of test with minimal disruption to existing processes
- Insulates technicians from the underlying complexities of mixed plant architectures
- Works equally well with all CMTS/CCAP/R-PHY CPE vendors gear
- Provides seamless transition to Remote PHY with vendor architecture-neutral approach

Features

- End to end coverage – complete DAA-ready portfolio available today from VIAVI
- Identical workflows for many tasks for legacy and DAA networks
- Scalable model to enable smooth staged rollout of DAA over many years
- Consistent system-wide network performance assessment, vendor neutral

Applications

- Early pre-deployment evaluation of different DAA vendors gear
- Monitoring and maintaining HFC plant throughout DAA transition
- Proactive plant maintenance including sweep and leakage for legacy and DAA nodes alike
- Preparing plant for rollout of new services
- Verify fiber and fiber connection integrity before turning up service
- Test critical PTP timing, throughput and packet loss as part of service turn-up



Fiber Monitoring

- Geolocated alarming
- Spot degradation trends
- Intrusion/tapping detection
- SLA managment
- Reduce MTTR

ONMSi

- Server and probe, landmark, and network maps config
- Integration to back office, dispatch, and email

OTU-5000

- Scalable OTDR/monitoring
- Compact - 72 ports in 1RU

Metro Ethernet Test

T-BERD/ MTS-5800-100G

- Ethernet and Fiber Test
- Support 40/100G link turn-up and troubleshooting

MAP-2100

- Complete remote Ethernet testing

HFC Monitoring

XPERTrak

- DAA and legacy node support
- QoE-focused monitoring
- PNM-Enabled
- Field meter interaction· US Sweep orchestration· NEM-neutral solution
- PathTrak HW support
- Leakage
  - Tagging via CT-4 or R-PHY node
  - Leaks mapped in XPERTrak

Fiber Instruments

SmartOTDR

- Smallest, lightest OTDRs
- Easy to use - SmartConfig and SmartLink Mapper

DWDM OTDR

- Verify end-to-end continuity prior to service turn-up
- Test new DWDM wavelengths without disrupting active channels

Optical Channel Checker (OCC-55 & -56C)

- Optic power levels, alternative to OSA for applications which do not require OSNR measurements

FiberChek Sidewinder

- MPO inspection in a matter of seconds

Metro Ethernet Instruments

T-BERD/MTS 5800

- Support turn-up and test of 10G end-to-end connection
- Test PTP IEEE 1588 timing

HFC Instruments

ONX CATV

- DOCSIS 3.1 enabled
- Sweep legacy and R-PHY nodes
- OneCheck
- XPERTrak interaction

Seeker-D/MCAIII

- Detect/locate leaks via drive test, plot on XPERTrak maps
- Pinpoint source with Seeker-D

HFC Sweep

Common process for legacy and DAA nodes

- XPERTrak RCI replaces SCU-1800 for DAA nodes
- Same ONX630 field meter used for CAA/DAA nodes

RF Signal

Analog Optical

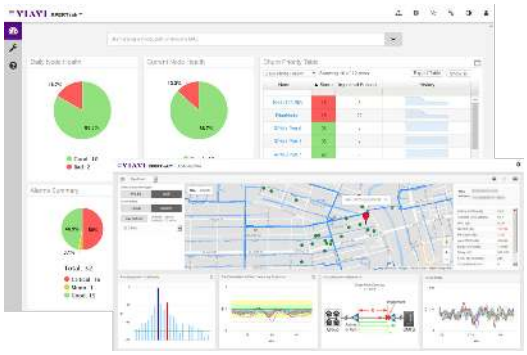
10G Ethernet

StrataSync™ ENABLED

- *Asset and test data management for fiber, Ethernet, and coax instruments*
- *Track direct and contractor turn-up and maintenance work orders to completion*
- *Cloud based for real-time access from anywhere*
- *Ensure consistent process and compliance across entire DAA node turn-up process*
- *Manage entire roll-out including design, job assignment, test management, and analysis of results*

Complete DAA-Ready Portfolio

HFC Monitoring – XPERTrak is a complete HFC monitoring and maintenance solution for all HFC systems regardless of underlying architecture. XPERTrak simplifies the DAA transition by presenting the technician the same user interface and workflow, whether the node is monitored by PathTrak hardware or leverages CMTS/CCAP or Remote PHY units as monitoring points.



Sweep – With over 20 years the industry standard, the VIAVI Stealth Sweep is now duplicated and improved for DAA by leveraging the Remote PHY Unit (RPU) as the new return sweep receiver, with XPERTrak serving in an orchestration role. The field instruments and workflows are identical for reverse sweep whether a node is a legacy or DAA node.





Field Instruments – In addition to being fully DOCSIS 3.1 capable, the OneExpert CATV sweeps using both legacy and virtualized DAA sweep processes. It supports automated fiber inspection scope and optical power meter accessories for techs who only have basic/ occasional fiber test/inspection needs.







Leakage Detection – Detect plant leaks and overlay location and severity of each on XPERTrak maps. Leverages RPU as tagger enabling seamless transition to RPHY architectures.





Fiber Instruments – Smallest, lightest, most compact OTDRs available including DWDM test. Smart configurations simplify setup and Smart Link Mapper (SLM) simplified trace interpretation with icon-based display of a fiber link. Available as standalone instruments or modules for T-BERD/MTS Metro Ethernet instruments







Fiber Monitoring – Identify fault in headend/hub fiber feeds with geolocated alarms to speed MTTR. Avoid SLA penalties by spotting degradations via proactive monitoring or fixing faster through fault insight provided.





Fiber Inspection - Automated fiber inspection tools including MPO connectors to prevent dirty connections from impairing services.



Ethernet Test – Simple enough for installation use but capable enough for the master technician, the T-BERD series can validate DAA Ethernet connection turn-up including critical PTP timing and speed future optical link troubleshooting.





StrataSync – Manage assets and test data for both HFC, fiber, and Ethernet instruments in a single system. Simplify assignment and tracking of R-PHY turn-ups for direct and contractor workforce by managing fiber, coax, and Ethernet testing with StrataSync Workflow/ Compliance.

StrataSync™

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VIAVI Solutions

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