

# Sifos Technologies Newsletter

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## PSA 4.0.10 Release

Sifos Technologies has released the PSA 4.0.10 release (software, firmware and documentation) and is now available for download for [Sifos website registered users](#). This release includes important updates to the **PhyView Analyzer** and the **PHY Performance Test Suite** and is *highly recommended* for all users. This release also includes a number of updates to the PoE PSE Conformance Test Suite for the PowerSync Analyzer.

## VeriPhy and PoE Quick Tests

QA and Manufacturing test scripts included standard with PhyView Analyzer, PowerSync Analyzer, and PowerSync Programmable Load solutions

[PVA-VeriPhy Automated](#)

Sifos is excited to announce video presentations of our PoE and Ethernet Physical Layer test & measurement solutions, a DC Unbalance Tolerance Application Note and PoE Quick Tests, the Powered Device LLDP Analyzer and PVA-VeriPhy for manufacturing applications!

## New Video Presentations & Demonstrations

### [Sifos Solutions Overview](#)

Learn about Sifos Technologies and the full line of Sifos products for Power-over-Ethernet and 10/100/1000BASE-T Physical Layer testing.

### [PhyView Analyzer Overview](#)

In this overview we challenge traditional notions of Ethernet 10/100/1000BASE-T testing with this comprehensive look at the **PVA-3000 PhyView Analyzer**.

### [PHY Performance Test Suite Demonstration](#)

A short demonstration of the **PHY Performance Test Suite** for the **PVA-3000 PhyView Analyzer** as it automatically performs comprehensive physical layer testing of both transmission and receiver characteristics on a 24-Port Gigabit Ethernet switch.

### [PSE Conformance Test Suite Demonstration](#)

A short demonstration of the **PSE Conformance Test Suite** for the **PSA-3000 PowerSync Analyzer** as it automatically performs comprehensive 802.3at conformance testing on a 10-Port Power Sourcing Ethernet switch.

## DC Unbalance Tolerance in PSE's

Sifos offers a highly unique, fully automated, plug-and-play approach to DC Unbalance tolerance analysis on a PoE port as described in this newly published [DC Unbalance Tolerance in PSE's application note](#). A brief overview:

### **The PoE Impairment Challenge**

Much like cable attenuation, alien crosstalk, and impedance mismatches present physical layer impairments to packet traffic on 10/100/1000BASE-T links, Power-over-Ethernet (PoE) also has the potential to present significant impairment. Unlike other forms of link impairment however, the assessment of PoE effects on link integrity is extremely challenging to characterize. Furthermore, the mechanisms for PoE impairment involve the combination of disparate components including Power Sourcing Equipment (PSE's), Powered Devices (PD's), cabling, and connectors.

### **Automated DC Unbalance Analysis from Sifos**

Available as part of the **PVA-3000 PhyView Analyzer PHY Performance Test Suite**, Sifos offers a highly unique, fully automated, plug-and-play approach to DC Unbalance tolerance analysis on a PoE

### Multi-Port 10/100/1000BASE-T Qualification Script

The **PVA-3102 PhyView Analyzer** includes a flexible and fully automated test application for evaluating 1 to 6 10/100/1000BASE-T ports at a time with a test throughput of as little as *75 seconds per port tested!* Accessible from PowerShell PSA, the [pva\\_veriphy](#) program offers effortless defect coverage of transmitters and receivers and is readily sequenced to test groups of 4 or 6 ports per test cycle.

### PoE Multi-Port High Throughput PSE Verification

The **PSA-3000 PowerSync Analyzer** includes a sample PSE automated test script, [psa\\_quick\\_test](#), that recovers critical PoE parameters from PSE test ports with an effective test throughput of less than 15 seconds per tested port. This application can be used to rapidly qualify PSE functional performance.

The **PSL-3000** and **PSL-3024 PowerSync Programmable Load** include a sample PSE automated test script, [psl\\_quick\\_test](#), that recovers critical PoE parameters from PSE test ports with an effective test throughput of less than 30 seconds per tested port. This script can be used as is, or with user modifications, to rapidly qualify PSE functional performance.

port. This solution combines one or more **PVA-3000** test ports with **PowerSync Analyzer** or **PowerSync Programmable Load (PSA/PSL)** test ports and a **PVA-DCU DC Unbalance Unit** to assess physical layer signaling response to a range of precisely controlled DC Unbalance conditions.

## Powered Device LLDP Analyzer

The IEEE 802.3at (PoE+) standard requires that all "Type-2" (>13Watt) Powered Devices support the new PoE LLDP protocol. This protocol allows PSE's and Powered Devices (PD) to communicate power requirements and power allocations with 0.1 watt granularity. It also allows for in-service adjustments to power allocations.

Unlike traditional LLDP (Layer 2) protocol, PoE LLDP involves messaging "hand-shakes" and includes protocol timing requirements. Hence, PD testing requires [flexible PSE-side protocol emulation](#). Ideally, this testing is combined with actual power monitoring functionality as can be provided by the Sifos PDA-300 Load Monitor.

Sifos **PDA-LLDP** serves as a flexible, [configurable emulator of PSE LLDP protocols](#) with full ability to process PD requests and provide user-specified power allocations. Key features include:

- PD verification to IEEE 802.3 Clauses 33 and 79
- Flexible PSE LLDP Modeling and Configuration
- One-Button LLDP Protocol Capture and Analysis
- Flexible Emulation of 802.3at Type-2 LLDP PSE's when combined with a Sifos **PDA-300**
- Compact, Portable 2-Port Emulation
- Overcomes Coverage Limitations of End-Span & Mid-Span PSE's
- PSA Interactive Graphical User Interface
- **PowerShell PSA** Automation Scripting
- Pop-Up Excel Spreadsheet Protocol Trace Reports

## PSA-3000 and PSL-3000 4-Pair PSE Testing

**PowerSync Analyzer** and **PowerSync Programmable Load** test blades were originally designed to facilitate 4-Pair PSE testing and 4-Pair PD modeling or emulation. A 4-pair PSE should be directly connected to Port 2 on any **PSA-3000** / **PSL-3000** test blade (or **PSA-3002** Compact Analyzer). Internally, the test blade is then configured to route the ALT-A pairs from that connection into the Test Port 2 test resources while routing the ALT-B pairs from that same connection into the Test Port 1 test resources. In this manner, the active loads can be managed to draw equivalent power levels from both ALT-A and ALT-B pairs, much like a 4-pair PD will do when powered by a 4-pair PSE. For more information, see [4-Pair PSE Testing application note](#).

## Quick Links

[Sifos Technologies Websites, Videos](#)

[PhyView Analyzer Product Overview, VeriPhy](#)

[PowerSync Analyzer Product Overview, PSA Quick Tests](#)

[PowerSync Programmable Load, PSL Quick Tests](#)

[DC Unbalance Tolerance in PSE's, Application Note](#)

[Powered Device LLDP Analyzer, Product Overview](#)

[PSA-3000 and PSL-3000 4-Pair PSE Testing, Application Note](#)

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