

PSA 5.0.01 Release Notes

The PSA 5.0.01 Release Note is applicable to the PSA-3000 and PVA-3000 family of test instruments.

Summary

The PSA 5.0.01 Release includes enhancements in the following areas:

1. Enhanced 802.3bt Power-Up Emulations including full support of LLDP for Single and Dual Signature PD Emulations
2. 802.3bt Standard Waveform improvements and support of LLDP negotiated power-ups involving Dual Signature PD's
3. Full support in the PSE Conformance Test Suite for 802.3at PSE's that utilize both 2-Event Classification and LLDP for power management

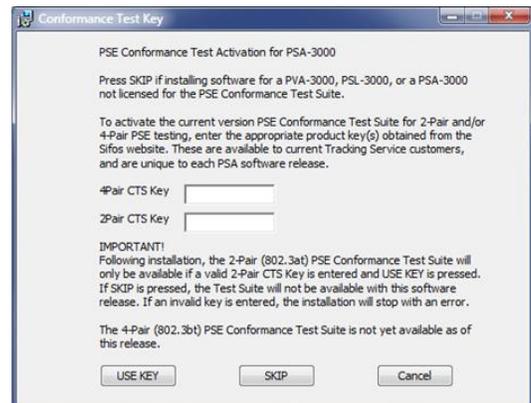
PSA 5.0.01 also provides numerous minor enhancements and bug fixes over the PSA 5.0.00 release and is a recommended update to all customers of PSA / PSL / PVA instruments.

PSE Conformance Test Suite Tracking Service

When installing 5.0.01 software, customers who are licensed for the 802.3at PSE Conformance Test Suite and are active on Conformance Test Suite Tracking Service must enter a product key in order to retain the PSE Conformance Test Suite after the software update.

The key code to use for the PSA 5.0.01 release is identical the code utilized for the PSA 5.0.00 release. This product key is available to active Tracking Service customers on the Sifos.com website under **Product Downloads**. (*This code will change for future PSA software releases.*)

If the PSE Conformance Test Suite Product Key is not entered, PSA software will be installed but will not be able to run the PSE Conformance Test Suite *regardless of instrument license status*. Customers who need to run PSE Conformance Test Suite but are not active on Tracking Service will have the option to **CANCEL** the software update during installation.



New PSA 5.0.00 Installer Dialog

The PSA 5.0.00 software installer will also accept a Product Key for the future 802.3bt 4-Pair PSE Conformance Test Suite. However, these keys do not yet exist and therefore should not be entered to the software installer.

Linux installations of the PSE Conformance Test Suite will also work differently as described in the PSA 5.0 installation instructions for Linux.

Future Tcl/Tk Support

PSA 5.0.01 starts to incorporate elements necessary for PowerShell PSA (and PSA Interactive) to run using Tcl/Tk 8.6 and 8.5 versions. Sifos software installations will include Tck/Tk 8.6 in the coming months.

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PSA 5.0.00 Enhancements

Software Entity	Impact	Feature
PSA Interactive 5.0	Moderate	Power-Up Tab Menu: <ul style="list-style-type: none"> Added capability to perform Dual Signature (Type-3/4 Dual) LLDP power-ups. Modified so that when LLDP Req'd is selected, changing PD Type and PD Class will update the maximum LLDP request power to the currently selected PD Class. Modified the LLDP power-up logic to report the grant status if the PSE powers just one pairset instead of powering 4-pair
	Moderate	PSA Waveforms Tab Menu: <ul style="list-style-type: none"> Modified the menu so that the 'LLDP Req'd' selection option is now available to Dual Signature Type-3 PD emulations.
One-Click Waveforms (PSA Interactive 5.0)	Important	Modified Transient, Overload, Short Circuit, Min MPS, and Error Delay waveforms to apply a default LLDP Request power of maximum allowed for selected PD Class emulation.
	Important	Modified Transient, Overload, Short Circuit, Min MPS, and Error Delay waveforms to allow for Dual Signature LLDP emulations of Class 1D - 5D.
	Moderate	Enhanced Detection – Connection Check waveform to remove artifacts (glitches) where non-coincident pairset signals very slightly overlap.
	Moderate	Added ability for Inrush waveform to apply inrush load to just one pairset and to boost the 2-pair inrush load, when specified to a single pairset, to 650mA for PD Class 5-8.
	Minor	Added option for Inrush waveform to apply 45msec (shortened) inrush.
	Minor	Adapted the 2-Pair (802.3at) Classification waveform to automatically extend aperture to 200msec when class event #1 exceeds 50msec.
	Minor	Modified the 2-Pair and 4-Pair Detection – Capacitance waveforms to apply 37Kohm rather than 23Kohm Rdet allowing higher detection voltages to develop.
	Minor	Modified all standard waveforms that return both Alt-A and Alt-B waveforms to separate with a line feed.
PowerShell PSA 5.0	Important	Modified power_bt to properly carry out Dual Signature LLDP emulated power-ups. Validated with 2 different PSE's.
	Moderate	Modified power_bt to apply a more substantive class 1, 2, or 3 initial load following Tdelay in order to prevent issues with certain PSE implementations of autotest.

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Software Entity	Impact	Feature
	Moderate	Added a safeguard in <code>psa_lan</code> command to reset LLDP LAN controllers in version 8/9 PSx-3000 blades when they are disconnected.
	Minor	Modified <code>power_bt</code> to process a possible LINK_DROPPED status returning from LLDP allocation polling utility.
	Minor	Added command extension to <code>psa_config</code> to recover PSA test blade serial numbers from a chassis inventory.
	Minor	Removed PowerShell PSA environment variable carrying the now obsolete 802.3af conformance test suite tests.
PowerShell PSA LLDP Utilities	Moderate	Enhanced the LLDP polling utility <code>pse_lddp_wait</code> to accept an optional <code>bt</code> argument whereupon it will poll for first LLDP frame that includes 802.3bt extended TLVs.
	Moderate	Modified LLDP Trace Utilities (<code>trace_lddp_pwrup</code> , <code>trace_lddp_change</code>) to initially poll for 802.3bt LLDP frames when running in 802.3bt TLV mode.
	Moderate	Modified the LLDP allocation polling utility <code>pse_alloc_wait</code> to use the <code>pd_req</code> configuration rather than any (possibly corrupted) PSE protocol fields to determine if protocol is 802.3bt vs 802.3at and if emulated PD is Single or Dual signature.
	Minor	Modify LLDP trace utility <code>trace_lddp_pwrup</code> to transmit 2 frames (rather than one frame) to stimulate PSE LLDP protocol (or LLDP extended TLV protocol) given that none is present after the power-up.
	Minor	Added two new return states to the LLDP allocation polling utility <code>pse_alloc_wait</code> : <code>TIMEOUT-BAD_TLV</code> (from a 'pse_frame' error) and <code>LINK_DROPPED</code> if PSE initially links, then drops link and no PoE LLDP frames are recovered over the timeout period.
PSE Conformance Test Suite	Important	Implemented robust handling of high power grant method= PHY+LLDP . Affected tests (<code>class_v</code> , <code>class_time</code> , <code>class_err</code> , <code>pwrn_pwracap</code>) and the test sequencer.
	Important	In the standard test report, <code>psa_report.xlsm</code> , adjusted limit logic for <code>class_v</code> , <code>class_time</code> , and <code>pwrn_pwracap</code> to treat HP Grant Method "PHY+LLDP" the same as "PHY".
	Moderate	Modified <code>pwrn_pwracap</code> to give PSE's a second chance to power the two sub-25.5W LLDP grant cases. This adaptation helps with PSE's that fail to power initially for reasons not related to LLDP at all.
	Minor	Modified <code>pwrndn_overld</code> to adjust measured time from waveform by taking median of the two sample times preceding the power-down so that, ON AVERAGE, value is more accurate.

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	Minor	Modified pwron_v to adapt to PSE's that remove power when the LAN connection used for LLDP is disconnected. For these PSE's, Ripple and Noise measurements are now made with the LAN connected and LLDP active.
	Minor	Removed obsolete (802.3af) test parameters from the standard report, psa_report.xlsm , Limits table
LLDP Reporting	Moderate	Added conditional light blue shading for PSE messages in all rows. Improved macro formatting.
	Moderate	Corrected issue in the PSE Powering Status column where qualifying "Single Signature" only applied to Class 5-8 rather than Class 0-8.

PSA 5.0.00 Bug Fixes

Software Entity	Impact	Feature
PSA Interactive 5.0	Moderate	PSA Waveforms Tab Menu: <ul style="list-style-type: none"> Corrected problem involving 802.3at LLDP power-ups required for the 2-pair waveforms Peak Transient, Overload, Short Circuit, and Error Delay were not properly setting up request power levels for the selected PD Class emulation.
	Minor	Disable the Window Close control in the LLDP Trace Display window because the LLDP traces must run to completion or a possible missing window error will occur.
One-Click Waveforms (PSA Interactive 5.0)	Minor	Fixed issue in Classification waveform where a current trace with Class 0 emulation would not find a class pulse
	Minor	Fixed a problem in the Overload waveform where repowering Class 8 after a delayed shutdown and applying a single pairset transient over 950mA could cause an transient command error
	Minor	Fixed a problem in the Overload waveform where the steady state currents applied by load transients in step 2 were all 4-pair currents even when the transient was applied to just one pairset.
	Minor	Removed very small vulnerability in Overload waveform where the overload scan loop could fail to capture the trace measurement.
	Minor	Corrected problem in Min MPS waveform where attempt to shut down LLDP prior to trace measurement was not reliable and could lead to trace configuration error.
PowerShell PSA 5.0	Important	Fixed issue in power_bt where Event Counting was never activated for LLDP emulated power-ups - all initial requests were being forced to 13W. Set up so that Event Counts are only displayed if requested in the command.

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Software Entity	Impact	Feature
	Important	Fixed issue in power_bt where LLDP power adjustments could only go UP from 13W but never down - this would prevent sync-up in LLDP negotiations because power_bt never adjusted the requested power level.
	Moderate	Fixed issue in power_bt where a Class 0 emulated power-up with Event Counting would set the 4-pair load to 4 mA after power-up causing DC MPS shutdown.
	Moderate	Fixed issue in power_bt where a Class 0 emulated power-up with Event Counting would set the 4-pair load to 4 mA after power-up causing DC MPS shutdown.
	Minor	Fixed issue in power_bt where in verbose mode, messages would say PSE sync'd to request followed by PSE did not sync to request - missing logic.
	Minor	Corrected issue where an I/O timeout could occur with the acvolts meter if period was 5 seconds, high band, and LLDP was active.
PSE Conformance Test Suite	Minor	Change to class_err test to solve possible connection sync issue involving PSE's that have open circuit signaling ranging above 15V

PSA/PVA Firmware Versions

PSA 5.0 software requires certain minimum versions of PSA/PSL test port firmware. The following versions are the current versions for each product. Sifos recommends updating firmware to these.

PSA-3000 Controller: ver 3.17	PSA-3202, PSL-3202, PSA-3402:
PSA-3402 Controller: ver 3.17	Test Port ver 4.13 , ALC ver 16
PSA/PSL-3102 or PSA-3002	PVA-3102
Test Port ver 3.2A	Test Port ver 3.0B

Important! PSx-3202 firmware **4.13** and PSx-3102 firmware **3.2A** addresses an extremely subtle and rare problem that develops when running PSE conformance tests with **LLDP power-granting PSE's**. The problem can manifest as either an I/O timeout to the PSA instrument or as an LLDP LAN interface that fails to auto-negotiate with the PSE port under test. Only PSx-3202 and PSx-3102 **hardware versions 8 and 9** are impacted by this problem.

PSA-3202/PSL-3202/PSA-3402 ALC Version 16 Update

The ALC firmware within a PSA-3202/PSL-3202/PSA-3402 is a vital element affecting the instrument's ability to reliably emulate all **802.3bt** PD's and to test **802.3bt** PSE's under a wide variety of conditions. The current version of ALC firmware is **version 16**. Any instruments that are used for 802.3bt PSE testing either now or in the future must be updated to this version.

To examine current ALC firmware version, simply open **PowerShell Tcl** or **Wish** and execute the command:

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`psa_config -alc`

ALC Update Instructions

Updating any PSA/PSL test instrument to ALC version 16 is a very simple task. However, it should be performed when the instrument is not needed for a while as it may take from 3 to 10 minutes PER TEST PORT to complete. It is recommended to simply run this update overnight from a PC that is not busy performing other tasks.

To perform the ALC version 16 update to all PSA/PSL-3202 test ports:

Obtain the .zip file [ALCv16.zip](#) from the Sifos Installation CD Firmware directory or from the PSA/PSL-3000 download page at www.sifos.com. Unzip (install) the 3 files in [ALCv16.zip](#) to:

PC OS	PSA Software Release	Installation Directory
Windows 10, 8, 7, Vista	PSA 4.2	C:\Users\Public\Sifos\PSA1200\Contrib\
	PSA 5.0	C:\Users\Public\Sifos\PSA3000\Contrib\
Windows Xp	PSA 4.2	C:\Program Files\Sifos\PSA1200\Contrib\
	PSA 5.0	C:\Program Files\Sifos\PSA3000\Contrib\

Open PowerShell (Wish or Tcl), connect to instrument that will be updated, and execute:

`alc_updater_16`

When the update is completed, look for the indication:

`alc_updater_16: UPDATES COMPLETED !!!!`

`Ports **** Updated Successfully!`