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EA PoE Logo Certification Program: Summary for Sifos Customers

Purpose

Enable suppliers of Power-over-Ethernet (**PoE**) products including Power Sourcing Equipment (**PSE**) and Ethernet Powered Devices (**PD**), to visibly brand their products as Ethernet Alliance (**EA**) PoE Certified and to enable purchasers of such equipment to select solutions that meet EA PoE Certification requirements. EA PoE certification is intended to demonstrate that PoE products, PSE's and PD's, are interoperable under IEEE 802.3 standards. The certification program is managed by the **Ethernet Alliance** and is available to manufacturers and suppliers world-wide.

What is the Certified PoE Logo?

The Certified PoE Logo is labeling for products and product packaging that will convey the following information: "EA Certified", **PSE vs. PD**, and Power Classification (**Class**). At initial inception, the certification covers PoE power classifications 0-4 as defined in the IEEE **802.3at** specification. Over time, the EA PoE Certification Program expects to address future product classifications 5-8 as defined in the upcoming IEEE **802.3bt** specification. Suppliers must be licensed to provide this mark and may apply it with specific products that have been certified for the mark.

How does this program benefit the industry?

IEEE 802.3 standardized PoE has existed since 2003 and has enjoyed great success as a means to support networked products that consume both power and data. In its original form, PD's could consume up to 13 watts on any cabling system previously installed for 10/100Base-T.

A second generation of IEEE 802.3 PoE, **802.3at**, expanded PoE capabilities to 25.5 watts while stipulating commonly installed "Cat5" or better cabling systems. With this generation, the IEEE 802.3 standard added rules for how PSE's and PD's interact when a PSE capable of furnishing 13 watts is connected to a PD requiring up to 25.5 watts. While the rules were robust, not all PoE equipment followed those rules and this led to some interoperability issues.

A future generation of IEEE 802.3 PoE, **802.3bt**, will expand PD power consumption by powering via four wire pairs instead of two. PD power consumption will expand to 51 watts on any existing four-pair cabling plant, and will further extend to 71 watts or more with certain cabling restrictions. PD power classes, or categories, will be doubled from 4 to 8 classes. End users and system installers will have a greater need to effectively match PSE's, PD's, and any cabling restrictions to address higher power applications. Furthermore, they will rely even more heavily upon product providers to provide interoperability of PSE's and PD's under all combinations of PSE and PD power classifications.

Finally, the EA PoE Certification Program will serve to better differentiate any PoE products that are implemented in accordance with the IEEE 802.3 standard from those that are not. Products designed to the IEEE 802.3 standard should provide safe and smart powering while minimizing possibility of damage to non-PoE equipment. The EA PoE Certification program aims to increase PoE product interoperability, network safety, and improve the user experience with easily identifiable EA Certified logo products.

PoE Certification Program Roles

Ethernet Alliance (EA): The EA PoE Certification Program is managed by the Ethernet Alliance. Any manufacturer or marketer of IEEE 802.3 PoE equipment who desires to apply the Certified PoE Logo will first need to enter a licensing agreement with the EA. The EA is based in Beaverton, Oregon, USA.

Certification Test Lab / Auditor: The University of New Hampshire - Interoperability Test Labs (UNH-IOL) is an independent body responsible for certification testing and associated processes in connection with the EA PoE Certification Program. As such, UNH-IOL will:

1. Participate with the **EA** in establishing certification testing requirements
2. Perform direct EA PoE certification testing of **PSE's** and **PD's**
3. Qualify, on behalf of EA, 1st Party (in-house, self-certifying) sites to perform EA PoE certification testing
4. Qualify commercially available PoE test equipment that may be deployed by authorized first party sites to perform EA PoE certification testing
5. Review test data submitted from authorized first parties to determine if EA PoE certification requirements are met
6. Maintain / update published information covering certified products and certified testing equipment
7. Audit or inspect PoE devices and first party test sites at the request of the EA

Summarizing, at program inception, PSE's and PD's seeking certification may either be tested at UNH-IOL (**3rd party**) or they may be tested "in-house" (**1st party**) using authorized test methods and test equipment whereupon test data is submitted to UNH-IOL in an approved format.

Authorized 1st Party Testing Lab: A manufacturer or marketer of PoE devices that desires to perform **1st party** (self-certifying) testing using authorized equipment and methods is referred to as an Authorized 1st Party Testing Lab. An Authorized 1st Party Testing Lab must obtain such authorization from **EA** and may submit test data in place of actual devices to UNH-IOL.

Test and Measurement Equipment Manufacturer: Any provider of PoE test equipment that may elect to obtain test equipment certification from UNH-IOL as a means to enable more efficient formation of Authorized Testing Labs.

Maintaining the PoE Logo Certification through Product Changes

The PoE Certification Program includes provisions for extending the logo mark onto derivatives of or modifications to product that was previously certified. Depending upon the types of changes performed (hardware, firmware, layouts, etc.), licensees may either submit justification documentation for "derivative product" or, if performing authorized 1st party testing, may elect to submit updated test data to UNH-IOL in order to qualify the logo mark on modified products.

What will logo certification cost?

The program offers a number of different cost-benefit structures. All participants seeking logo

marks will encounter licensing and membership costs with the **EA** and will separately encounter certification and/or auditing costs with **UNH-IOL**.

Those interested in **1st party** testing, will benefit from significantly lower testing costs, higher flexibility to modify existing products, and greater ease to add new products to the program.

The **EA** will offer reduced introductory licensing and membership costs when the program is formally introduced later this year. Those will be available to participants that sign up in 2017.

For further information about the EA PoE Certification Program and associated costs, see:

[EA PoE-FAQ.pdf](#)

Sifos Technologies and the EA PoE Logo Certification Program

Sifos Technologies advocated that the **EA PoE Certification Program** include **1st party** testing options so that equipment designers and producers could continuously improve or adjust their products without significant externally-imposed time and cost constraints. Sifos test equipment plays a significant role in IEEE 802.3 PSE and PD conformance testing on a world-wide basis today.

Sifos has membership with the **EA** and is participating with the **EA** to recommend requirements for the certification of PoE testing systems and equipment with the goal to eventually certify the following systems:

PSA-3000, including PSA-3102, PSA-3002, and PSA-3202 hardware and a current version of the PSE Conformance Test Suite

PDA-602A, including a current version of the PD Conformance Test Suite

It will be Sifos' goal that existing installations of this equipment will be able to apply to EA for **1st Party Test Lab** certification and that any additive feature requirements in Sifos product software will be freely available to customers of Sifos PSE and PD Conformance Test Suites.

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