

# P1904.1

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**Type of Project:** Revision to IEEE Standard 1904.1-2013

**PAR Request Date:** 10-Feb-2015

**PAR Approval Date:** 26-Mar-2015

**PAR Expiration Date:** 31-Dec-2019

**Status:** PAR for a Revision to an existing IEEE Standard

**Root Project:** 1904.1-2013

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**1.1 Project Number:** P1904.1

**1.2 Type of Document:** Standard

**1.3 Life Cycle:** Full Use

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**2.1 Title:** Standard for Service Interoperability in Ethernet Passive Optical Networks (SIEPON)

**Changes in title:** ~~IEEE~~ Standard for Service Interoperability in Ethernet Passive Optical Networks (SIEPON)

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**3.1 Working Group:** Access Networks Working Group (COM/SDB/1904\_WG)

**Contact Information for Working Group Chair**

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**Contact Information for Working Group Vice-Chair**

None

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**3.2 Sponsoring Society and Committee:** IEEE Communications Society/Standards Development Board (COM/SDB)

**Contact Information for Sponsor Chair**

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**4.1 Type of Ballot:** Individual

**4.2 Expected Date of submission of draft to the IEEE-SA for Initial Sponsor Ballot:** 12/2015

**4.3 Projected Completion Date for Submittal to RevCom:** 05/2016

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**5.1 Approximate number of people expected to be actively involved in the development of this project:** 20

**5.2 Scope:** This standard describes the system-level requirements needed to provide service-level, multi-vendor interoperability of Ethernet Passive Optical Network (EPON) equipment. The specifications complement the existing IEEE 802.3(TM) and IEEE 802.1(TM) standards, which enable the interoperability at the Physical

Layer and Data Link Layer. Specifically included in this specification are

- EPON system-level interoperability specifications covering equipment functionality, traffic engineering, and service-level quality of service/class of service (QoS/CoS) mechanisms;
- Management specifications covering equipment management, service management, and power utilization.

**5.3 Is the completion of this standard dependent upon the completion of another standard:** No

**5.4 Purpose:** The purpose of this standard is to build upon the IEEE 802.3ah (1G-EPON) and IEEE 802.3av (10GEPON) Physical Layer and Data Link Layer standards and create a system-level and network-level standard, thus allowing full "plug-and-play" interoperability of the transport, service, and control planes in a multi-vendor environment.

**5.5 Need for the Project:** More than 30 million subscribers are being served by 1G-EPON now, and it is expected that deployment volumes soon will reach more than 10 million new subscribers annually. There are no open, international, system-level specifications describing how to achieve multi-vendor interoperability.

A detailed system-level standard, developed in an open fashion by the IEEE, will eliminate the need for service providers and national bodies

to create unique interoperability specifications that needlessly fragment the market. This will serve a number of important purposes:

- EPON devices will follow a common specification for the world-wide market, resulting in larger volumes and reduced costs;
- Operators will not face the challenge of developing system-level specifications and interoperability testing procedures before they can deploy EPON;
- EPON vendors will not need to implement multiple options to comply with multiple proprietary/national specifications. Reduced device complexity will further reduce costs;
- Competition among EPON equipment and component suppliers will increase, thus driving further innovation and cost reductions.

**5.6 Stakeholders for the Standard:** The stakeholders include telecom system and component vendors, telecommunications carriers, and multiple system operators (MSOs)

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#### **Intellectual Property**

**6.1.a. Is the Sponsor aware of any copyright permissions needed for this project?:** No

**6.1.b. Is the Sponsor aware of possible registration activity related to this project?:** No

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**7.1 Are there other standards or projects with a similar scope?:** No

#### **7.2 Joint Development**

**Is it the intent to develop this document jointly with another organization?:** No

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**8.1 Additional Explanatory Notes (Item Number and Explanation):** 5.4 The standard will be revised to address a number of maintenance requests (see [http://www.ieee1904.org/revision/projects/1904\\_1\\_2013/mrdb/rmtf\\_1904\\_1\\_2013\\_maint\\_reqs.xlsm](http://www.ieee1904.org/revision/projects/1904_1_2013/mrdb/rmtf_1904_1_2013_maint_reqs.xlsm)) and to add specifications for Optical Link Protection for Package A.

7.4 Conformance test procedures for IEEE 1904.1-2013 are specified in P1904.1-Conformance01-2014, P1904.1-Conformance02-2014, and P1904.1-Conformance03-2014 standards. It is expected that this revision to 1904.1-2013 will not require any changes to the conformance test procedures.