

EPoC

Proposal for Project Objectives

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Kevin A. Noll

OBJECTIVE 1 (Proposed modification)

- Specify at least one PHY to support subscriber access networks using the EPON protocol and operating on point-to-multipoint RF distribution plants comprised of all-coaxial cable or hybrid fiber/coaxial media.

OBJECTIVE 2 (previously adopted)

- Maintain compatibility with 1G-EPON and 10G-EPON, as currently defined in IEEE Std. 802.3 with minimal augmentation to MPCP and/or OAM if needed to support the new PHY.

OBJECTIVE 3 (new)

- Develop a channel model **within an overall coaxial-network operating model** describing a typical ~~real-world~~ coaxial cable plant under which to define the baseline plant conditions of the specification.
- ALTERNATE:
- Develop a channel model **within an overall coaxial-network operating model** describing the required plant conditions under which the ~~real-world~~ coaxial cable plant is expected to operate.

OBJECTIVE 4 (new)

- Provide at least one physical layer specification that is capable of:
 - A baseline data rate of 1 Gbps at the MAC/PLS service interface when transmitting in 120 MHz, or less, of assigned spectrum under defined baseline plant conditions;
 - A data rate lower than the baseline data rate when transmitting in less than 120 MHz of assigned spectrum or under poorer than defined plant conditions;
 - ~~A data rate lower than the baseline data rate when transmitting in less than 120 MHz of assigned spectrum. Maintain error performance when plant conditions prevent a higher data rate;~~
 - A data rate higher than the 1Gbps baseline data rate and up to 10 Gbps when transmitting in assigned spectrum and in channel conditions that permit;

OBJECTIVE 5 (previously adopted)

- PHY to support symmetric and asymmetric data rate operation.

OBJECTIVE 6 (previously adopted)

- PHY to support symmetric and asymmetric spectrum assignment for bidirectional transmission.

OBJECTIVE 7 (previously adopted)

- PHY to support independent configuration of upstream and downstream transmission operating parameters.

OBJECTIVE 8 (previously adopted)

- PHY to operate in the cable spectrum assigned for its operation without causing harmful interference to any signals or services carried in the remainder of the cable spectrum.

OBJECTIVE 9 (proposed modification)

- PHY to have a BER at the upstream and downstream receivers better than or equal to 10^{-10} at the MAC/PLS service interface.