Objectives for RTPGE Study Group

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Mehmet Tazebay, Chair

RTPGE Objectives Ad Hoc Group

802.3 RTPGE Draft Objectives

a) Preserve the IEEE 802.3/Ethernet frame format at the MAC client service interface.

b) Preserve minimum and maximum frame size of the current IEEE 802.3 standard.

c) Support full duplex operation only.

d) Support a speed of 1000 Mb/s at the MAC/PLS service interface.

e) Maintains a bit error rate (BER) of less than or equal to 10^{-10} at the MAC/PLS service interface

f) Define a single PHY to support point-to-point operation over a link segment with up to four inline connectors using balanced copper cabling for all supported distances and Classes including:
   - At least 15m over a link segment with up to four inline connectors using balanced copper cabling with fewer than four twisted pairs
   - At least 40m over a link segment with up to four inline connectors using improved balanced copper cabling with fewer than four twisted pairs

- The objectives (a) and (b) were accepted by the Study Group during May-2012 IEEE 802.3 interim meeting
- The objectives (c) to (d) were reviewed by 802.3 RTPGE participants on 6/25/2012 teleconference.

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g) Define optional Energy-Efficient Ethernet operation for Reduced Twisted Pair Gigabit Ethernet

h) Support faster training time from cold start of the PHY operation

Option-1 Define a training mechanism which can transition from power-up to full 1 Gb/s data mode operation faster than the training specified in Clause 40.6.1 (750ms)

Option-2 (Option 1 plus) Define a low power standby state which can transition to full 1 Gb/s data mode operation within 100ms

i) Support 1 Gb/s operation in automotive & industrial EMC environments