

NGEABT Study Group Architecture Ad Hoc Proposed Objectives

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Version 2

Background

- This deck presents the proposed Objectives originally prepared by Peter Jones (Cisco), George Zimmerman(CME) and David Chalupsky (Intel), and reviewed a number of times at the NGEABT Study Group Architecture AdHoc meetings.
- Structure of the deck: three slides
 1. Non-Controversial Objectives
 2. Rate, Reach and Cabling Objectives
 3. 5Gb/s over Cat5e Objective

Non-Controversial Objectives

- Support full duplex operation only
- Preserve the 802.3 / Ethernet frame format utilizing the 802.3 MAC
- Preserve minimum and maximum Frame Size of current 802.3 standard
- Support Auto-Negotiation (Clause 28)
- Support optional Energy Efficient Ethernet (Clause 78)
- Support local area networks using point-to-point links over structured cabling topologies
- Do not preclude meeting FCC and CISPR EMC requirements
- Support PoE (Clause 33)
 - including amendments made by 802.3bt “DTE Power via MDI over 4-Pair Task Force”

Rate, Reach and Cabling Objectives

- Support MAC data rates of 2.5 Gb/s and 5 Gb/s
- Support a BER better than or equal to 10^{-12} at the MAC/PLS service interface (or the frame loss ratio equivalent)
- Define a 2.5 Gb/s PHY for operation over
 - Up to at least 100m on four-pair Class D (Cat5e) balanced copper cabling
- Define a 5 Gb/s PHY for operation over
 - Up to at least 100m on four-pair Class E (Cat6) balanced copper cabling
- Select copper media from ISO/IEC 11801:2002, with any appropriate augmentation to be developed through work of 802.3 in conjunction with SC25/WG3 and TIA TR42

5Gb/s over Cat5e Objectives

Replace the previous page “5 Gb/s PHY” objective with one of the options below.

- Define a 5 Gb/s PHY for operation over
 - Either
 - Up to at least 100m on four-pair Class E (Cat6) balanced copper cabling
 - Up to 100m on four-pair Class D (Cat5e) balanced copper cabling
 - Or
 - Up to at least 100m on four-pair Class D (Cat5e) balanced copper cabling

Next Steps

- Pass motions to adopt non-controversial objectives at the end of this week.
- Draft motions are on the following slides.
- The objectives not included in the motions in this deck are the rate and reach objectives
 - 2.5 Gb/s over Cat5e
 - 5 Gb/s over Cat6
 - 5 Gb/s over Cat5e
- The author believes that there is work and progress being made in this area during this week, and encourages contributions that move the group forward.

Draft Objectives Motion #1

- Move to accept the “Non-Controversial Objectives” text as presented in slide 3 of jones_ngeabt_03_0115.pdf
- M: Peter Jones
- S: George Zimmerman
- Results (Technical 75%)
 - Y: xx
 - N: yy
 - A: zz
 - Motion Result: aaaaaa

Draft Objectives Motion #2

- Move to accept the following three objectives as presented in slide 4 of jones_ngeabt_03_0115.pdf
 - Support MAC data rates of 2.5 Gb/s and 5 Gb/s
 - Support a BER better than or equal to 10⁻¹² at the MAC/PLS service interface (or the frame loss ratio equivalent)
 - Select copper media from ISO/IEC 11801:2002, with any appropriate augmentation to be developed through work of 802.3 in conjunction with SC25/WG3 and TIA TR42
- M: Peter Jones
- S: George Zimmerman
- Results (Technical 75%)
 - Y: xx
 - N: yy
 - A: zz
 - Motion Result: aaaaaa

Thank you.