

# Project Objectives

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# Project Documentation (Study Group)

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## Three Key Requirements from a Study Group

- Project Authorization Request
- 5 Criteria Response
  - Broad Market Potential
  - Compatibility
  - Distinct Identity
  - Technical Feasibility
  - Economic Feasibility
- Objectives
  - Determining objectives for the future project is critical step
  - Choice of specific objectives impacts responses to 5 Criteria

Focus of This Presentation

# Project Objectives: History and Tradition

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Project objectives are created by the Study Group, approved by 802.3 and use as the basis for work by the 802.3 Task Force upon formation.

- Represent a distilled set of high-level technical requirements
- Identify the goals of a project in 802.3 Working Group
- Set expectations for the future work of the 802.3 Task Force
- Provide measurable requirements to be met by the deliverables produced by the 802.3 Task Force
  - Individual objectives may be modified by the 802.3 Task Force
  - Subject to approval by the 802.3 Working Group

Examples of objectives include operating speed (bit rate), media type, reach, BER, coexistence, compatibility etc.

Every project undertaken in the 802.3 Working Group since (at least) 1992 has been guided by a set of such project objectives

# Project Objectives: Guidelines

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- Objectives
  - Must be succinct and unambiguous
  - Must be technical, but written in plain English
  - Must Identify key outcomes of a Task Force
  - Should not have to identify every minute item of work
  - Are problem statements, not solution statements
    - They tell you \*what\* a project will do, not \*how\* it will do it.
  - May be included in the introductory text of an amendment, and thus live forever within the standard

# Development of Objectives

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## Example # 1 – IEEE P802.3bj Objectives (original)

- Support full-duplex operation only
- Preserve the 802.3 / Ethernet frame format utilizing the 802.3 MAC
- Preserve minimum and maximum FrameSize of current 802.3 standard
- Support a BER of better than or equal to  $10^{-12}$  at the MAC/PLS service interface
- Define a 4-lane 100 Gb/s backplane PHY for operation over links consistent with copper traces on “improved FR-4” (as defined by IEEE P802.3ap or better materials to be defined by the Task Force) with lengths up to at least 1m.
- Define a 4-lane 100 Gb/s PHY for operation over links consistent with copper twin-axial cables with lengths up to at least 5m.

# Development of Objectives

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## Example # 2 – IEEE P802.3bm Objectives

- Support full-duplex operation only
- Preserve the IEEE 802.3 / Ethernet frame format utilizing the IEEE 802.3 MAC
- Preserve minimum and maximum FrameSize of current IEEE 802.3 standard
- Support a BER better than or equal to  $10^{-12}$  at the MAC/PLS service interface
- Provide appropriate support for OTN
- Define re-timed 4-lane 100G PMA to PMA electrical interfaces for chip to chip and chip to module applications
- Define a 40 Gb/s PHY for operation over at least 40 km of SMF
- Define a 100 Gb/s PHY for operation up to at least 500 m of SMF
- Define a 100 Gb/s PHY for operation up to at least 100 m of MMF
- Define a 100 Gb/s PHY for operation up to at least 20 m of MMF

# Establishing Project Objectives: Recommended Approach

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## Consensus building is key

- Work with others who share a common view on objectives
- Produce presentation(s) supporting the objective
  - Explain the objective precisely
  - Explain how it addresses the Five Criteria
- Gather support for a motion prior to making it
- Offer objectives one at a time, using a motion like this (example):

*Move that the Study Group adopt the following objective:*

*Provide a BER of 10-12 or better at the MAC/PLS service interface*

- All votes on objectives are technical, requiring  $\geq 75\%$  approval

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# Thank You