TIA FO-2.2.1 Task Group on Modal Dependence of Bandwidth

1/00 Status Update

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What's Your Network Made Of?

Gigabit System Performance

- System performance is a function of launch characteristics
- 62.5 μm launch measurement methodology nearing completion
  - FOTPs in final stage of balloting
  - Validation experiment conducted to verify proposal
  - Systems Bulletin to document recommendations in process
- Methodology and experience applicable to accelerate 50 μm development

IEEE 10 Gigabit Ethernet Opportunity

- IEEE multimode fiber objectives
  - Support at least 100 m over installed base
  - Support at least 300 m on multimode fiber
    - Allows use of new fiber and laser combinations
- IEEE timing
  - Last feature November 2000
  - Last technical change May 2001

Next Generation 50 μm Development Progress

- Multimode Fiber Proposal to TIA, ISO, and IEEE
  - 10 Gb serial at 850 nm using new 50 μm fiber
  - Universal applications coverage
  - Lowest system cost
- Technical feasibility demonstrated
  - 300 m objective achieved by multiple vendors
  - Up to 1600 meters at 10 Gb/s achieved in laboratory experiments

Next Generation 50 μm Development Issues

- Fiber characterization
  - Must provide predictor of system performance with lasers
  - Include evaluation of connector effects
- Transceiver characterization
  - Define transceiver launch
- System validation
  - Prove new methodology achieves desired results

Next Generation 50 μm Development Plan

- Proposed timeline driven by IEEE 802.3ae timeline
  - Determine fiber performance measure (11/00)
    - Determine correct measurement and fiber criteria
    - Draft fiber test procedure
  - Determine required transceiver launch (11/00)
    - Determine encircled flux requirements
  - Recommend enhanced system performance (5/01)
    - Validate methodology
    - Document system performance recommendation for IEEE 802.3ae 10 Gigabit Ethernet standard