

TIA-TR42 Liaison

Chris Di Minico
CDT Corporation

Status: Additional Transmission Performance Specifications for Optical Fiber Cabling Systems (Addendum to TIA/EIA-568-B.3)

- TIA TR-42 is developing specifications for higher performance multimode fiber components and cabling as requested by IEEE 802.3 for improved multimode optical fiber.
- These multimode optical fiber component and cabling specifications are capable of supporting 10 Gb/s applications for a distance up to 300 m (operating at 850 nm).
- PN- 3894-AD1, Additional Transmission Performance Specifications for Optical Fiber Cabling Systems will be released for ballot in November 2000.

Liaison Letter to IEEE on Next Generation Multimode

To: Geoff Thompson, Chair, IEEE 802.3 (gthompso@nortelnetworks.com)
Jonathan Thatcher, Chair IEEE 802.3ae
(jonathan@worldwidepackets.com)
cc: Herb Congdon, Chair TR-42.8
John Siemon, Chair TR-42.1 and US TAG SC25 WG3
From: Paul Kish, Chair TR-42
Subject: Liaison Letter to IEEE on Next Generation Multimode Fiber

TIA TR-42 is developing specifications for higher performance multimode fiber components and cabling as requested by IEEE 802.3 for improved multimode optical fiber. These multimode optical fiber component and cabling specifications are capable of supporting 10 Gb/s applications for a distance up to 300 m. PN-3894-AD1, Additional Transmission Performance Specifications for Optical Fiber Cabling Systems, has been pursued by TR-42.8 and will be released for ballot in November 2000.

TIA TR-42 considers multimode optical fiber the primary optical fiber media for premises cabling within buildings. The many benefits of multimode optical fiber, include ease of termination, support of legacy applications, bandwidth capability, and compatibility with lower cost optical sources (operating at 850 nm). These many benefits contribute to justifying the use of multimode optical fiber.

The TIA TR-42 Engineering Committee supports the inclusion of multimode optical fiber PMDs for 10 Gb/s Ethernet. We are pleased that IEEE 802.3ae is considering a 10 Gb/s Ethernet standard that will make use of this higher performance cabling.

Internet Cabling Distribution Project

- The Internet Cabling Distribution environments
 - Internet data centers (topology, media, distances)
 - Central office (topology, media, distances)

TIA TR-42.8 position on Next Generation Optical Fiber Cabling

- **Multimode Cable Specifications**
 - **Core size and NA: 50 micron, NA=0.20**
 - **Bandwidth:**
 - **500/500 MHz-km at 850/1300 nm overfilled launch**
 - **2000 MHz-km at 850 nm laser launch***
 - **Attenuation: 3.5/1.5 dB/km at 850/1300 nm**
 - **Distance for 10 Gb/s applications: 300 m**
- **SM cable specifications remain unchanged**
 - **SM Connector return loss is under investigation**

* The laser launch bandwidth measurement, which is not yet defined, must account for the mode power distributions that occur within the fiber due to the effects of source characteristics and transverse offsets in connections.