

**Recommendation to Amend “Recommendation for UM Campus  
Building Wiring Standard, August 1999  
Amendment #1**

To: IT Commons Network Working Group

Fm: Dan Kjos

Reference: “ITFX NWG Building Wiring Standards Recommendation”  
Final Document  
August 1999

Date: 17 September 2002

I requested that Bob Scapelliti research the feasibility of migrating to the use of Category 6 station wire. The following reflects his findings:

*UPDATE September 12,2002*

*On June 5, 2002 the Telecommunications Industry Association approved and on June 20<sup>th</sup> published the Category 6 addition to the TIA-568 standard.*

*The new standard provides for twice the bandwidth of Category 5e cable with improved immunity to external noise. The cable is backward compatible to applications provided on Category 3, 5 and 5e cables.*

*With these improvements the new cable is still only rated at 1 Gigabit at 100 meters, or less, cable length with hopes of higher speeds in the future. Questions exist as to the new cables susceptibility to high voltage static discharge and to the willingness of manufactures to quickly move from the IEEE standard to the manufacture of the electronics specifically designed to meet the TIA/EIA-854 specification (Full Duplex Ethernet Specification for 1000 Mbts/sec Operation Over Balanced Twisted – Pair Cabling).*

*Current estimates indicate a cost increase of more than 20% over the current pricing of 5e cable and terminating equipment.*

*The cabling industry suggests that overall costs will come down with the implementation of a Category 6 infrastructure and the application of the TIA/EIA-854 specification in place of the IEEE 802.3ab 1000Base-T standard.*

*It is estimated that the cost for electronics would need to be reduced by approximately 15% in order to make up the cost difference in cabling infrastructure.*

*A recent article in Cabling Installation and Maintenance Magazine suggests the following criteria as a basis to determine if the user is put at a disadvantage by not moving to Category 6 wiring:*

- 1. Those with marginal or inferior cabling that need to upgrade it anyway;*
- 2. Those implementing new LANs without legacy cabling.*

*Since the creation of the "Recommendation for UM Campus Building Wiring Standard, August 1999", the University has continued its policy of installing Category 5e cables in all new construction and remodels and to facilitate repairs when necessary greatly reducing the number of structures on campus with "inferior cabling" or without legacy cabling capable of meeting the 1000Base-T standard.*

*We should continue keeping a close watch on Category 6 pricing or for particular applications where Category 6 cabling may be appropriate on campus but we do not see an advantage to the University in proceeding with Category 6 as a standard at this time.*

*Our recommendation is to continue the policy as stated in the original document of installing Category 5e cabling as a standard with fiber to the desktop for locations with higher bandwidth requirements as the next viable option.*

**\*\* This recommendation was considered and endorsed by the University of Michigan Network Working Group.**