

10GBASE-T Overview

Ethernet Alliance
SC09



ethernet alliance

But first off...

What is the Ethernet Alliance?

- We represent the spectrum of IEEE 802 Ethernet standard developments
- We support activities that span from incubation of new Ethernet technologies to interoperability demonstrations certification and education
- 80+ Member Companies & Consulting Organizations



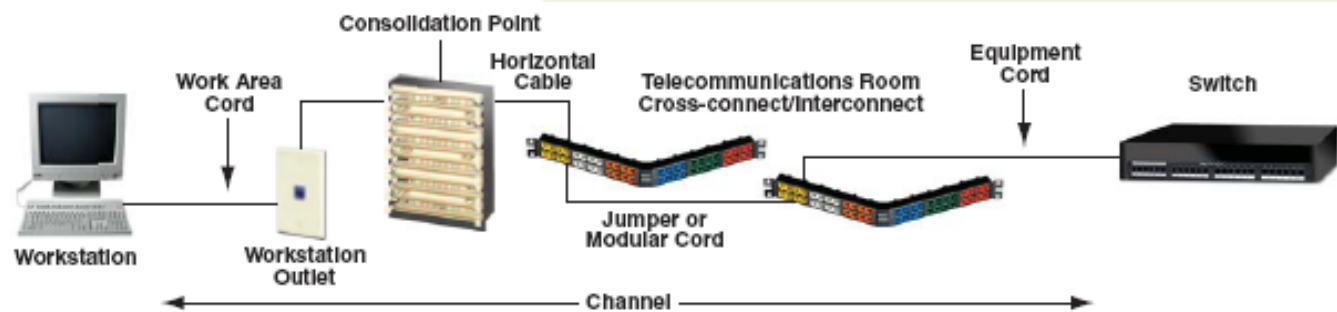
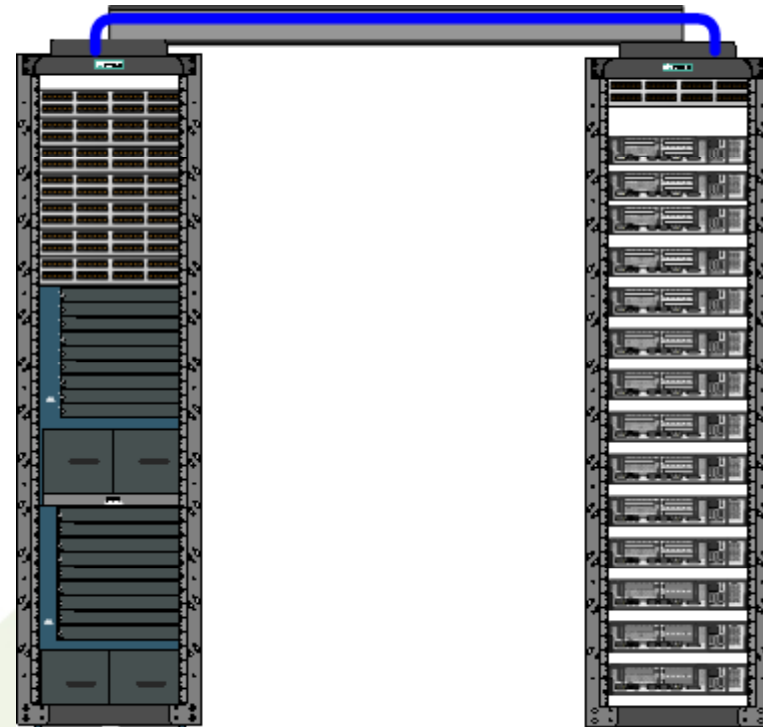
What do we demonstrate?

“THE Converged Ethernet Network“
shows a lossless, high-performance,
enterprise data center infrastructure while
converging client messaging, storage and
server application communications over a
unified network.



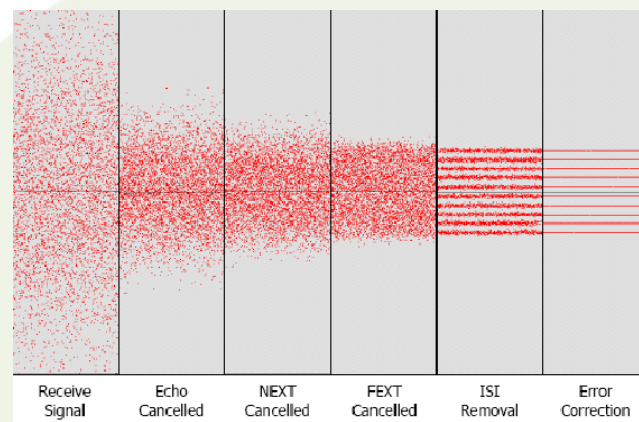
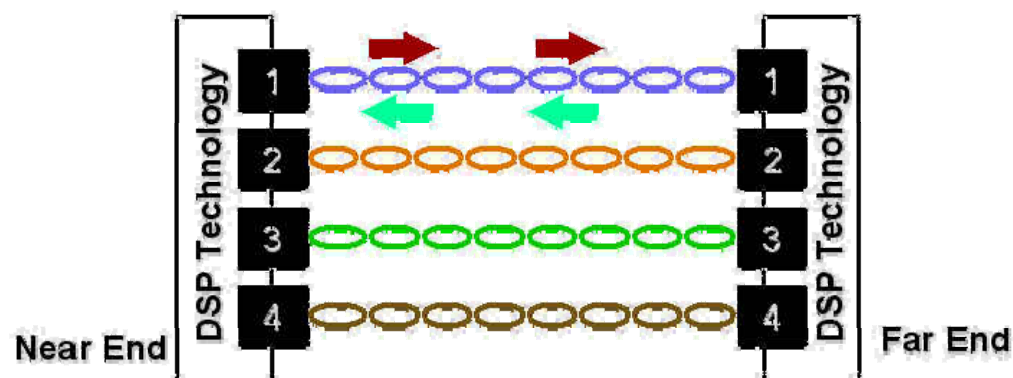
What is 10GBASE-T?

- 10Gigabit Ethernet operation over copper twisted pair cabling up to 100 meters
- IEEE standard 802.3an™-2006
- End to end system of
 - Switching platform
 - Server adapters
 - Category 6A structured cabling



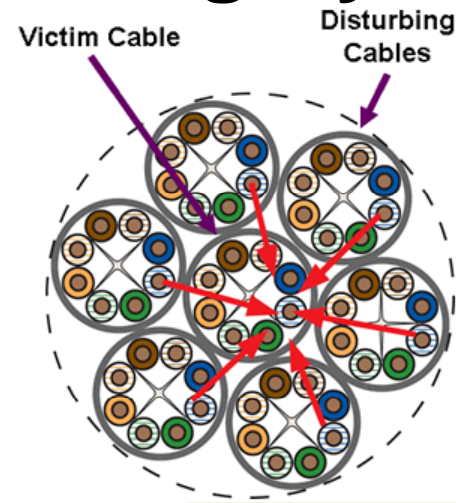
Active Equipment for 10GBASE-T

- Full duplex base-band transmissions over all four twisted pairs
- Transmission data rates of 2.5 Gbps over each lane (wire pair)
- BER < 1×10^{-12}
- Advanced signal processing transceiver with DSQ 128
- Proven interoperability

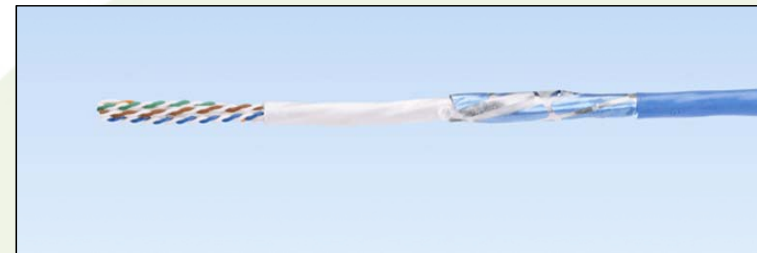


Cabling System Requirements for 10GBASE-T Operation => Category 6A

1. Operation to 500MHz
2. Suppression of alien crosstalk (cable-to-cable signal coupling)
3. 4 connector channel model



Cable type	Max. Distance	Specification
Cat7/Class F	100m	ISO 11801
Cat6A/Ea UTP/STP	100m	TIA 568C.2 ISO 11801
Cat6 UTP	55m	TSB 155
Cat5e	Not supported	



Benefits of 10GBASE-T

- Cost effective mass market 10Gig links and asset utilization
- Easy to understand
- Uses familiar structured twisted pair copper cabling up to 100m
- Supports ToR, EoR, and link aggregation topologies
- Simple to procure with 10GBASE-T LOM adoption
- Seamless 1G to 10Gig transition
- Runs Energy Efficient Ethernet (IEEE 802.3az)





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