



# End-User Consultant Perspective on 25GBase-T

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# Who I am

- President J&M Consultants, Inc. – a consulting firm (established 1988) that specializes in data center infrastructure and data center relocation
- 70+ data center projects, > 2 million sq. ft. raised floor space
- Primary contributor ANSI/TIA-942 telecom infrastructure standard for data centers, addenda, and revisions
- Co-chair BICSI data center subcommittee & lead editor BICSI-002 data center design & installation standard
- Chair TIA TR-42.6 telecom administration subcommittee
- Vice-Chair TIA TR-42.1 commercial building cabling
- Editor ISO/IEC TR 14763-2-1 telecom administration identifiers
- USNC Project Manager ISO/IEC 24764 data center standard
- Data Center & Administration Section Editor – ISO/IEC 14763-2 cabling planning & installation

# Benefits of xBase-T

- Auto-Negotiation
  - 10M/100M/1G/10G/25G/40G
  - Support for existing servers
  - Simplifies transition to higher speeds
- Built into most servers acquired by enterprises
- Cost-effective (typically highest customer priority)
- Lengths supported are suitable for both top-of-rack and end-of-row configurations

# Benefits of xBase-T

- Engineers and technicians familiar with cabling and connectors
  - Simpler installation
  - Simpler troubleshooting
  - Customers prefer to buy what they are familiar with
- Cabling flexibility - balanced twisted-pair media can be used to support other types of connections used in data centers
  - consoles, WAN circuits, telephone, modem

# Enterprise Customers

- Many data centers still use Cat 5e & Cat 6
- Higher end enterprises (e.g., finance) deploy Cat 6A
- Top-of-rack and end-of-row are both popular
- High level, but not complete conversion from physical to virtualized servers
- Low level of SAN/LAN conversion & cloud, but expected (eventually) by most
- 1G is all many customers need for most servers until they converge LAN/SAN (or virtualize servers with heavy network requirements)
- 40G/100G backbone common

# Perspective on 25GBase-T

- Replacement of cabling in an existing data center is disruptive and potentially risky
- Existing cables are often inadvertently disconnected when removing old cables
- Migration to new cabling in an existing data center requires free cable pathway (tray/ladder) space and one or more free cabinet rows
- 2.5G might be useful outside the DC, but is inadequate for LAN/SAN convergence

# Perspective on 25GBase-T

- Preference for 25GBase-T to work on existing cabling types (e.g., Category 6A) over a reasonable distance (30 m)
- If Cat 8 is a requirement, then 25GBase-T should be somewhat less expensive than 40GBase-T and support a distances of at least 30 m
- Capex and to a lesser extent opex (e.g., maintenance, recurring circuits costs) are major factors in buying decisions
- Power is a lesser factor but doesn't not fall in network budgets and is thus often ignored

# Thank you

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