

YOUR NETWORK RUNS ON COMMScope™

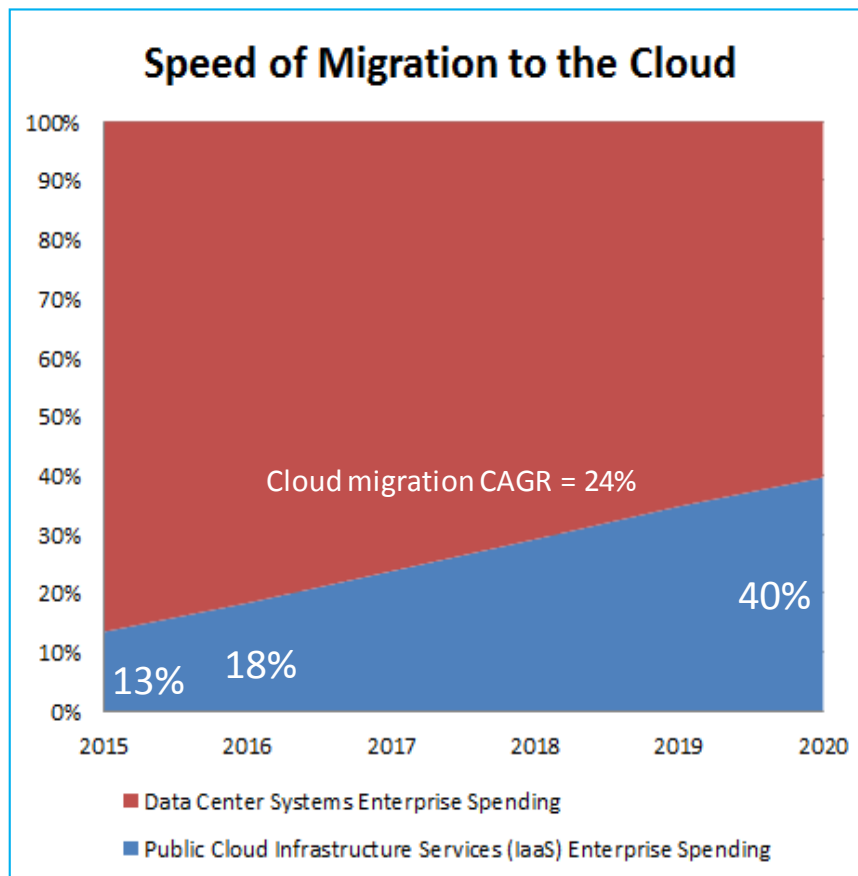
The Journey to Data Centers in the Future

Ethernet Alliance ETF 2016 “The Road to Ethernet 2026”

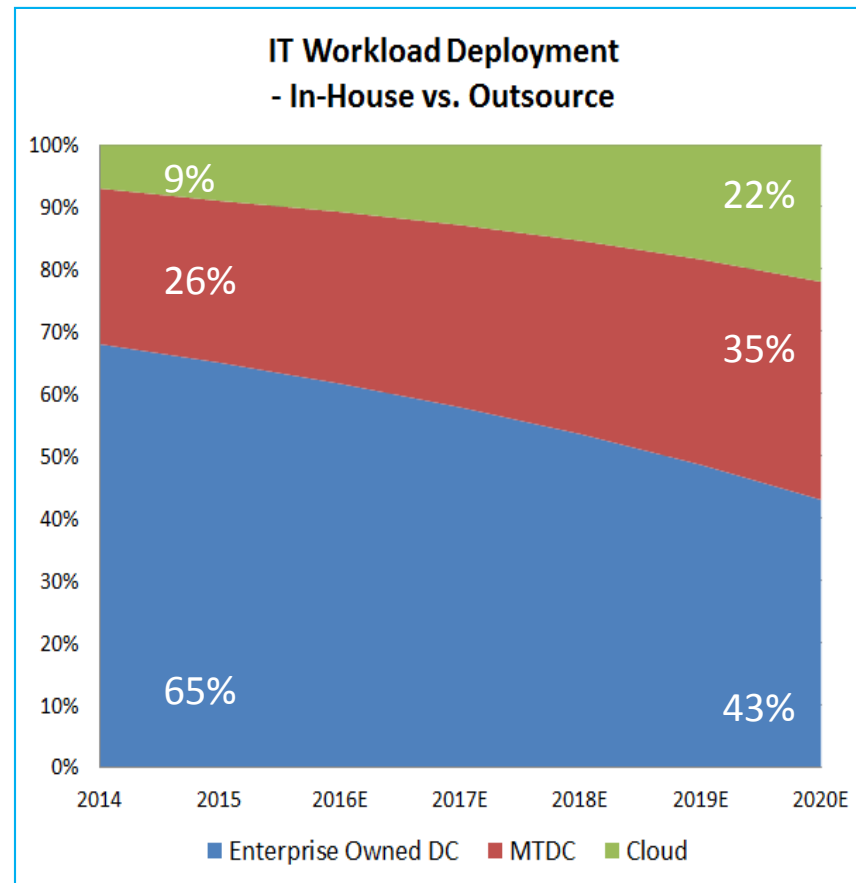
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- Cloud and Colocation Migration
- Inter-switch Connectivity Migration
- Takeaways



Source: Gartner, Q2, 2016



Source: 2014 and 2015 data from Uptime Institute DC Industry Survey. Data from 2016 to 2020 are estimated by the presenter

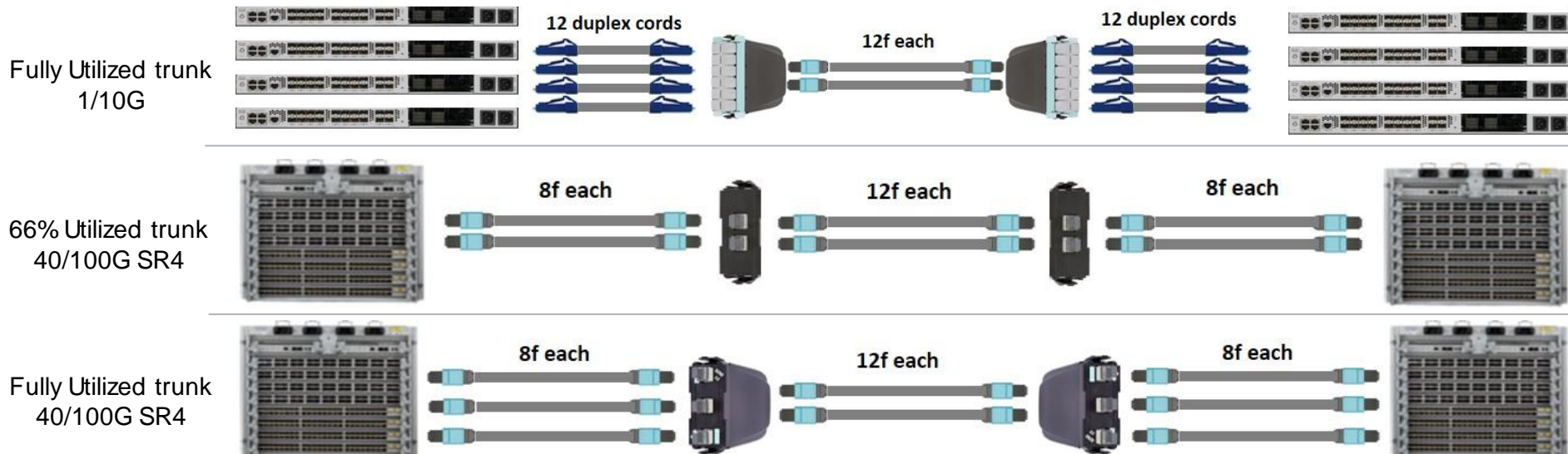


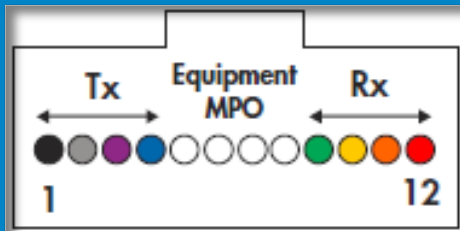
- Migration from Duplex to Parallel scheme
- Migration from 10G/lane “building blocks” to 25G, 50G, 100G for higher speed applications
 - Ex: 10G @ 10G = 2f
 - 100G @ 10Gb/s = 20f (100G SR10)
 - 100G @ 25Gb/s = 8f (100G SR4)
- Availability of Industry standard MPO options – same ferrule body:
 - 12f MPO
 - 8f MPO
 - 24f MPO
- Extended Value of Multimode for short reach via SWDM and OM4 WBMMF technologies
 - Parallel lanes over each fiber
 - 100G @ 25Gb/s = 2f (100G QSFP28 SWDM4)

12f MPO



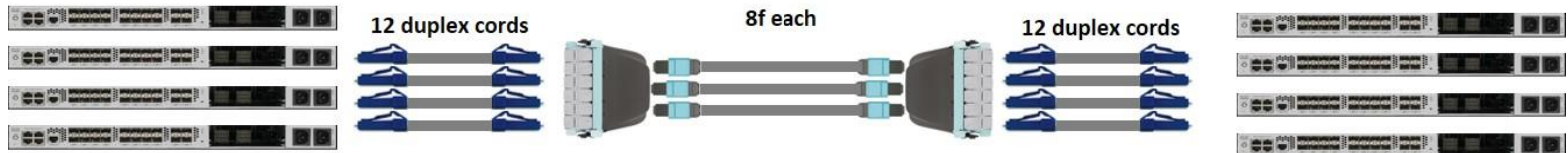
- Global Industry Standard interface for both Multimode and Single-mode
- In data centers: Initially used for modular fiber optic cabling
 - Rapid pluggable deployment for duplex applications
 - Converged adaptation to fully utilize fibers for parallel applications



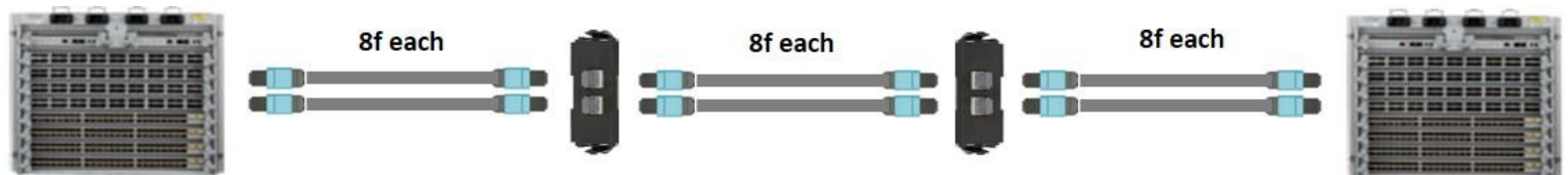


- Utilizes 8 of 12 fiber positions of Industry Standard 12f MPO interface
- Initially used for equipment patch cords to QSFP transceivers
- As infrastructure cabling, 8f MPO can be used for either parallel or duplex
 - Optimized for parallel applications

Fully Utilized trunk
1/10G



Fully Utilized trunk
40/100G SR4

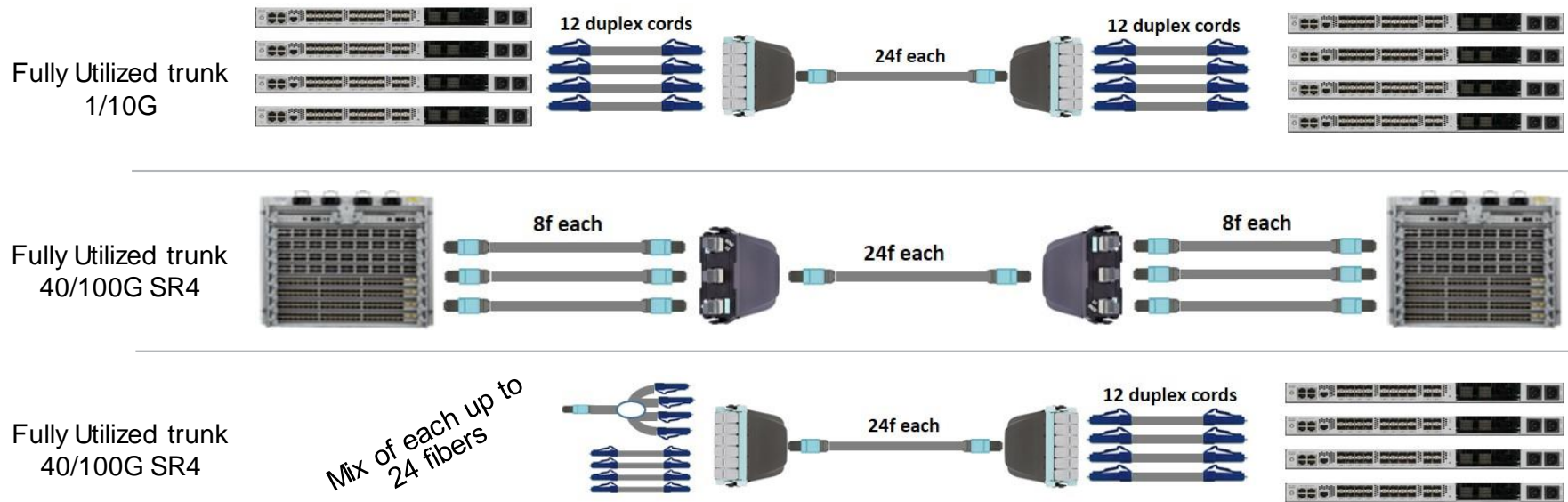


Fully Utilized trunk
40/100G SR4



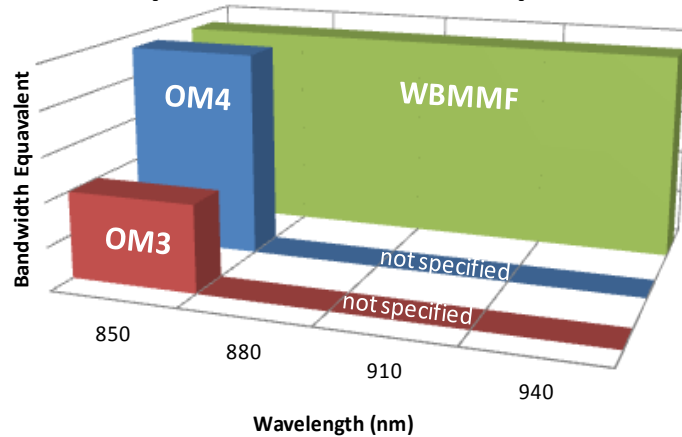


- Global Standard interface for both Multimode and Single-mode
- Used in DC's for modular fiber optic cabling and 100G SR10 transceivers
 - Lowest first cost duplex design (1/3 the MPO connections vs 8f MPO)
 - Most flexible trunk interface for duplex/parallel/duplex migration
 - Transition to parallel and recover/re-use fiber as lane rates increase



Wideband Multimode Fiber (WBMMF) Enables Parallel lanes over Single Fiber

Conceptual Bandwidth Comparison



CommScope equips Sacramento Kings' stadium with WBMMF. Image source: Sacramento Kings



Commercially available WBMMF solution



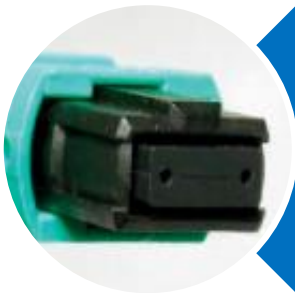
TIA TR-42 published TIA-492AAAE to ratify WBMMF in June 2016



Enterprise owned data centers
will still have a significant
market share



DC hybrid operations will
increase the complexity in data
center management



Pave a high-speed fiber
migration path to meet demand
and protect investment

EVERYTHING RUNS ON

YOUR NETWORK
