



IEEE 802.3cg in support of 1 pair  
for Premises and Data Center IOT

**Bryan Moffitt**

**Masood Shariff**

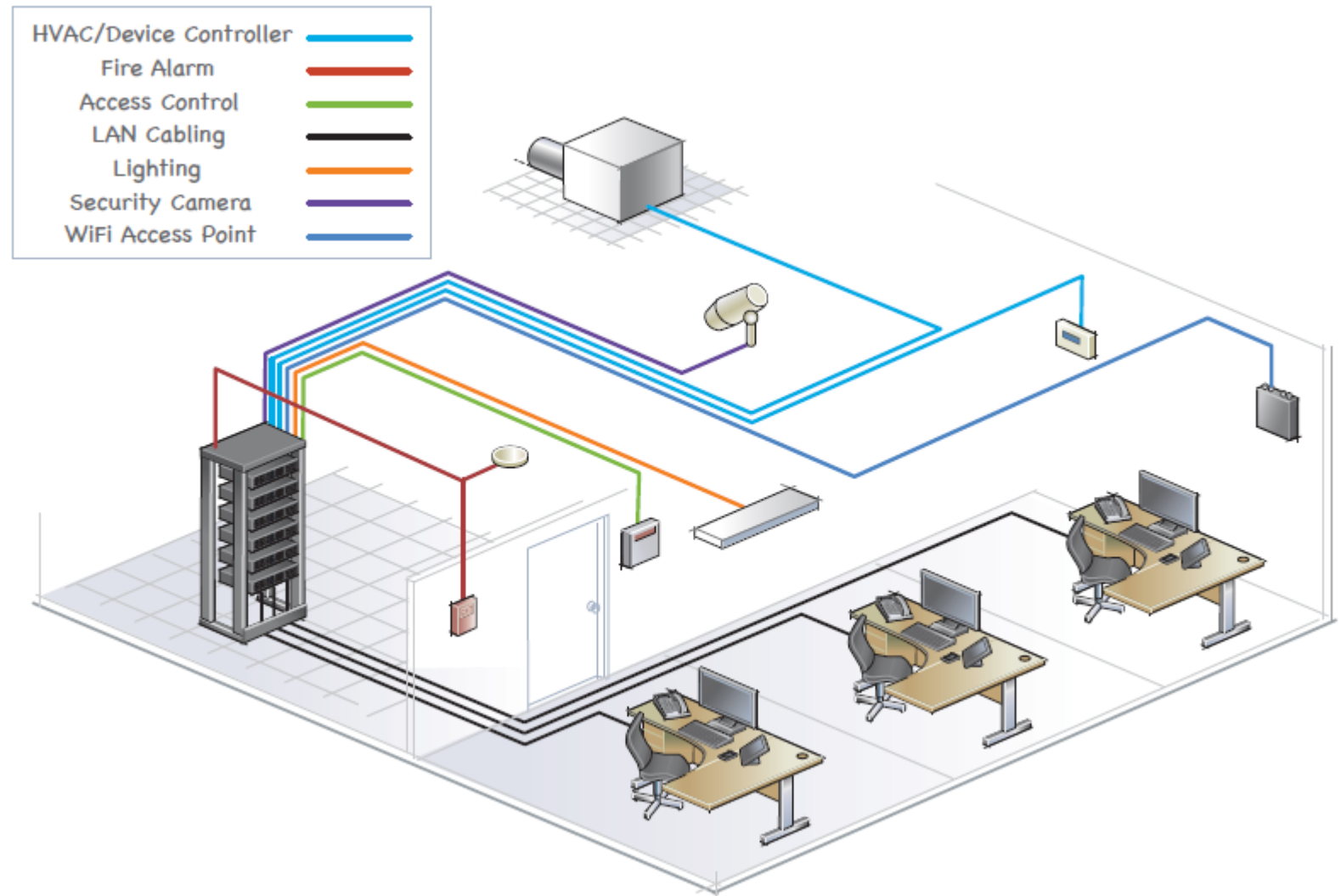
CommScope Systems Engineering

# Supporters

NAME	COMPANY	NAME	COMPANY
Alan Flatman	LAN Technologies	Jon Lewis	DELL
Andrew Jimenez	ANIXTER	Matthias Wendt	Philips
Dieter Schicketanz	Reutlingen University	Lennart Yseboodt	Philips
Hans Lackner	Qoscom	Chad Jones	CISCO
		Andrew Gardner	Linear
		David Tremblay	HPE
		Mehmet Tazebay	Broadcom
		Kamal Dalmia	Aquantia

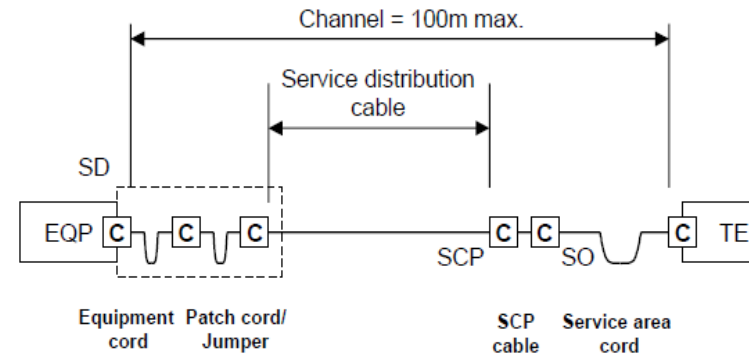
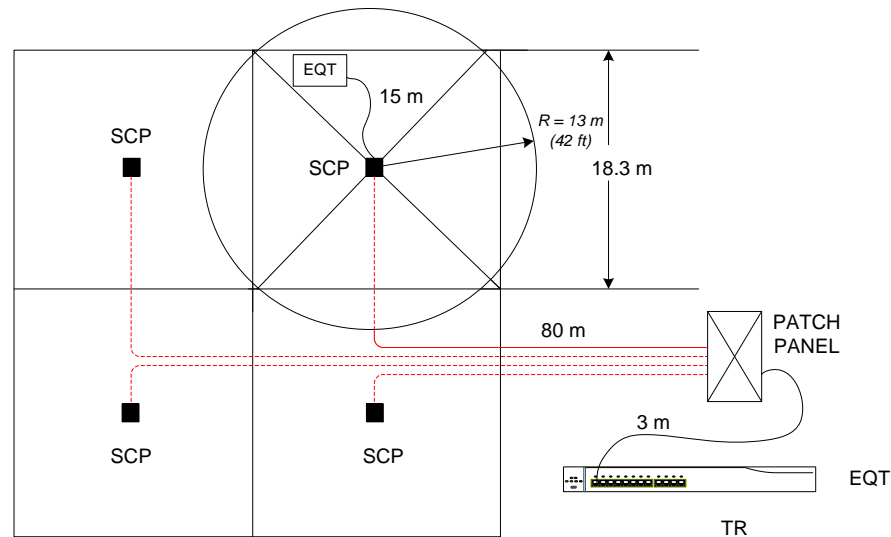
# Conventional 4-pair Premises Architecture

- Horizontal cabling directly to application endpoints
- Fixed cabling impedes office dynamics and application convergence



# ISO/IEC 11801-6 Distributed Services Cabling Standard (FDIS)

## Zone Grid Topology using a Service Consolidation Point

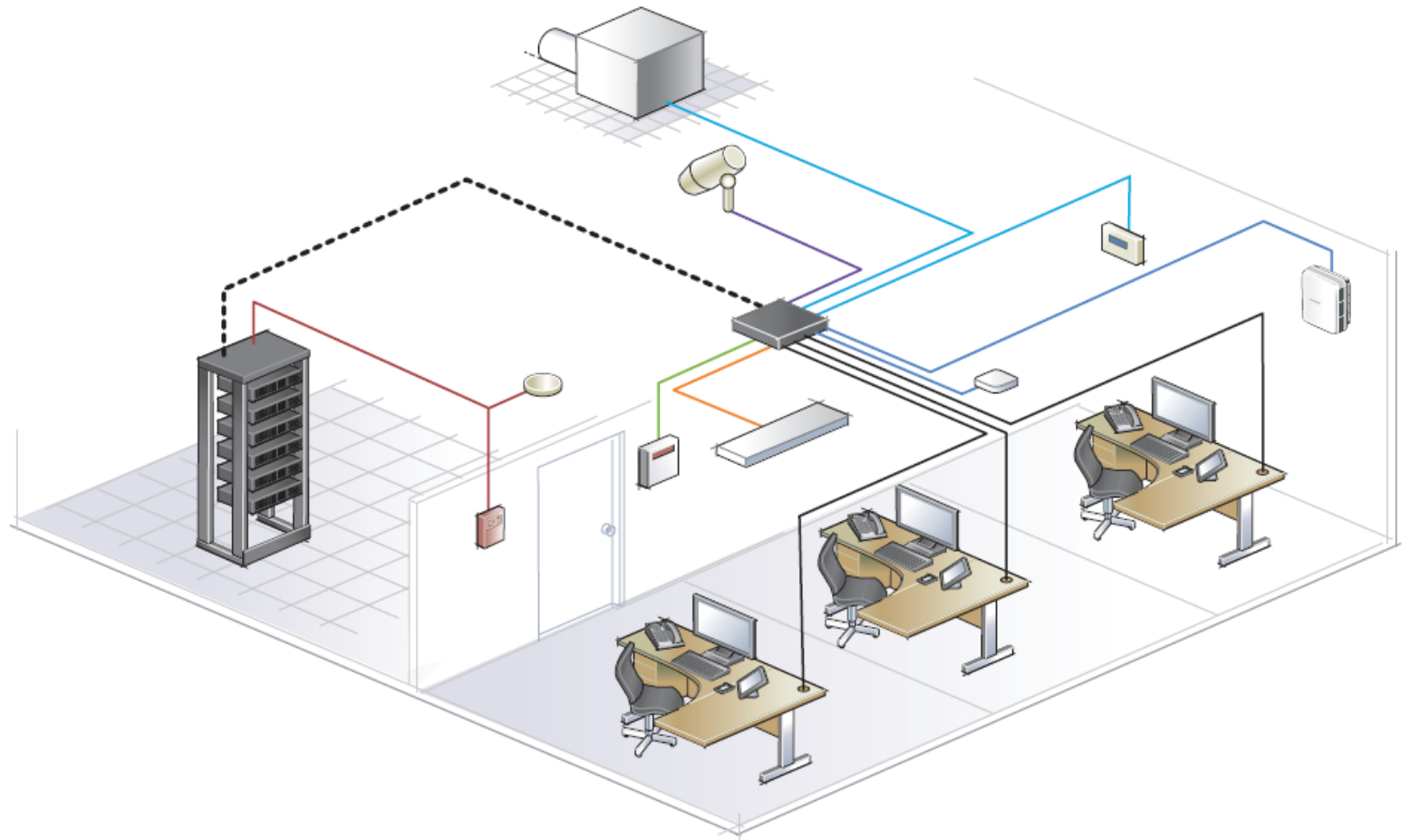


d) Cross-connect – SCP – SO model

Figure 15 – Service distribution cabling models

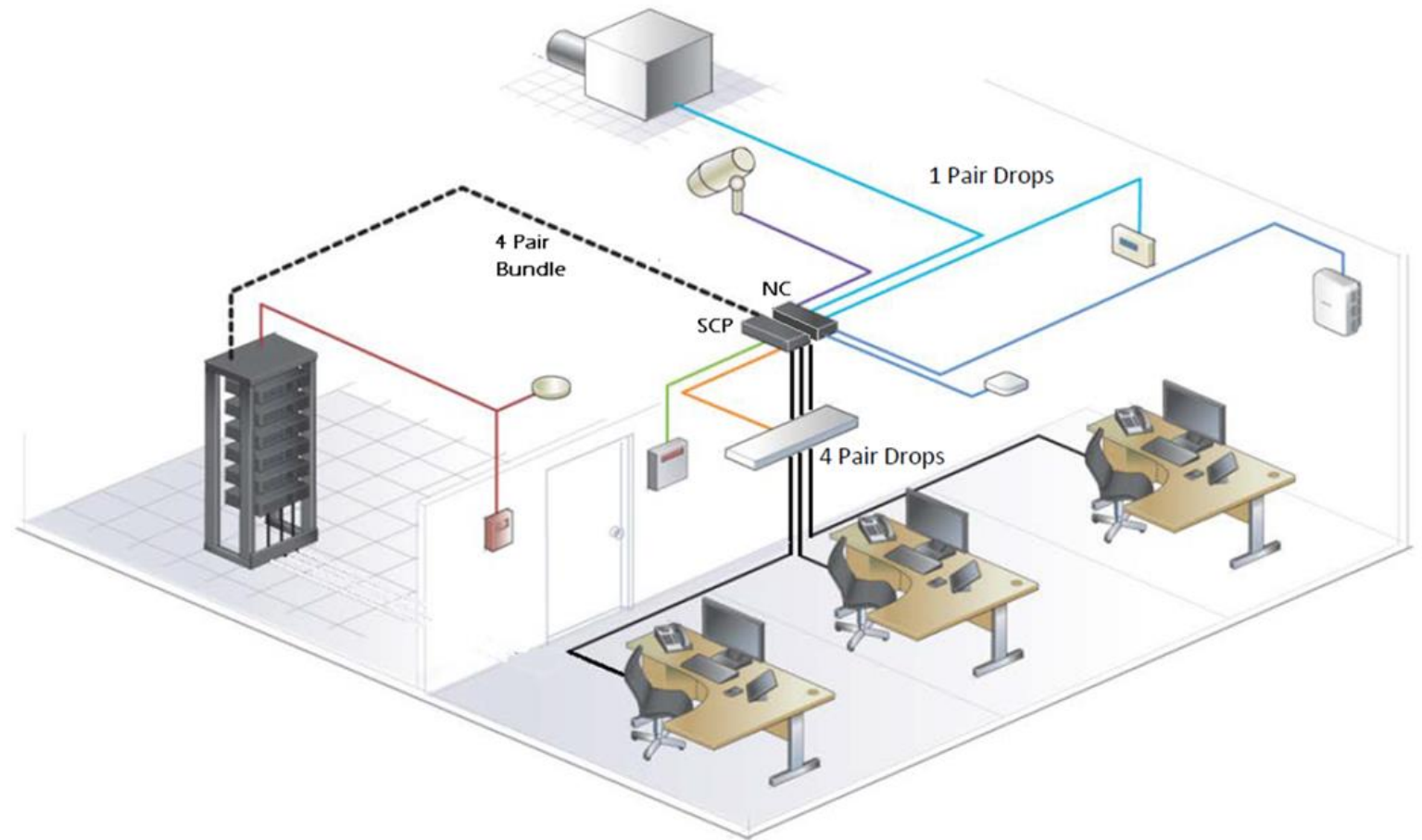
# 4-pair Zone Architecture

- Horizontal cabling to zones allows for flexibility and convergence
- Meshes well with improved bundling practices in support of POE



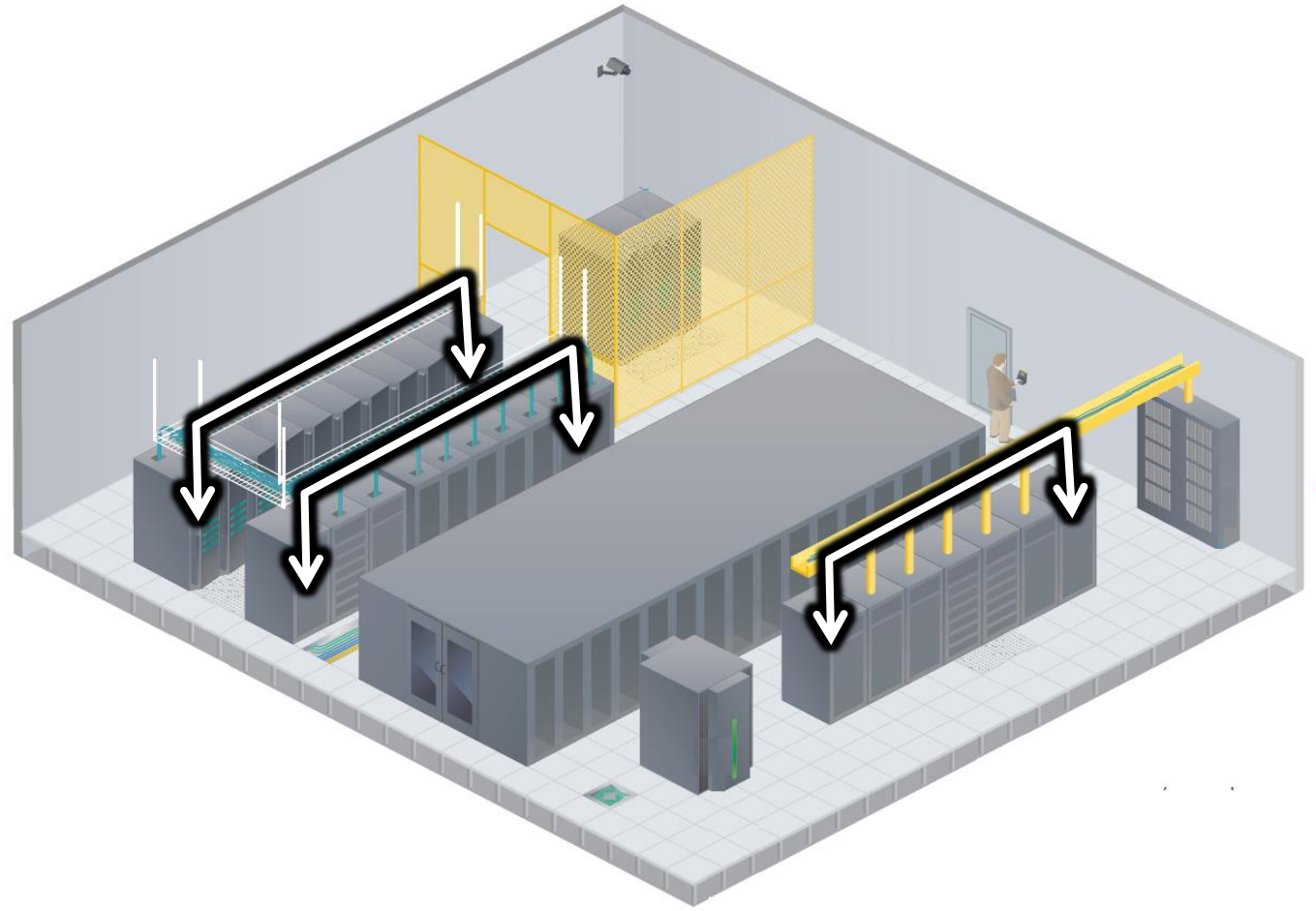
# Proposed 4-pair with 1-pair zone Architecture

- Service Consolidation  
Point allows connection to a 1-Pair Network Conversion Switch
- More flexible cabling for offices of the future
- IOT friendly supporting greater endpoint diversity
- Friendly to 15(+) meter 1-Pair PHY developments
- Provide for improved planning of cable bundling in support of POE



# Data Center – Out of Band Admin Support

Suitable for row lengths if support is extended to 30 meters (like a low speed 802.3bq)





# Conclusion and Recommendation

- IEEE 802.3cg task force should consider these use cases that offer broad market potential
- Enables improved “Office of the Future” and data center Admin enhanced through the application of IOT concept
- IOT and M2M require smaller size higher density cabling, lower relative costs, and placement of equipment closer to the edge of the network
- The generic topology proposal herein is under consideration by TIA TR42 joint 1-pair task group



The background features a dark blue gradient with a network of thin, light blue lines connecting various points. These points are represented by small, bright white star-like glows of varying sizes, creating a sense of depth and connectivity.

COMMSCOPE®

*Thank You*

Bryan Moffitt  
Masood Shariff