Session 1: Copper Broadband Technology Developments

MDU Connectivity Enhancements

Dr Jim Crammond, MoCA

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About MoCA Technology Standards

Connecting devices within a home (mesh)
MoCA Home™ 2.0 (1 Gbps)
MoCA Home™ 2.5 (2.5 Gbps)
MoCA Home™ 3.0 (10 Gbps)

Connecting homes in an MDU (P2MP)
MoCA Access™ 2.5 (2.5 Gbps)
MoCA Access™ 3.0 (10 Gbps)

Bridging from access network to home network (P2P)
MoCA Link™ 2.5 (2.5 Gbps)
MoCA Link™ 3.0 (10 Gbps)

All flavors based on the same PHY standards
About MoCA Access™

MoCA Access™ 2.5
- Developed for secure point to multipoint networks
- Enables fiber speeds over existing MDU coax cable
- Individual client provisioning
- Individual secure connections to each client
- BBF Standardized Data Models to Service Providers
  - TR-181, Yang, SNMP
  - TR-419 – Fiber Access Extension over Copper
- Enables reverse power feed

MoCA Access™ 3.0
- Will use MoCA 3.0 technology standard as basis
- Backward compatible to MoCA Access™ 2.5
No-New-Wires for Multi-Gigabit Services

• **The challenge** for MDUs and service operators is keeping PON fiber installation costs under control, eliminating fiber ducting issues, and minimizing tenant unit disruptions.

• **The good news**: A vast majority of MDUs built between 1960 and 1990 are wired with reusable coaxial cabling. Coaxial cabling can be the ideal, shielded conduit for PON fiber gigabit and multigigabit networking to each unit.

• Using the MoCA Access 2.5 technology, a fiber broadband solution can be deployed with minimal tenant unit disruptions.
Site Considerations

- Who owns the building’s coax?
- Are there Building owner / Site management agreements in place?
- What access permission is required?
- How do you minimize disruptive and time consuming build elements?
- What are the more complex service provision processes?
MDU Coax Installation Considerations

Star-Cascade Network
- Several RF bands
- One coax cable loop
- Coax Link Controller with Diplexer filter

Tap-Cascade Network
- Single RF band
- Fiber in, TV in

Star-Network
- One RF band per outlet
- Fiber in, TV in
Cost of Install - FTTH vs FTTep

FTTH vs FTTep CAPEX ($) with 15%/30% Take-up rate

USD

FTTH vs FTTep CAPEX ($) with 15%/30% Take-up rate

SFU 100%  S-MDU 15%  S-MDU 30%  M-MDU 15%  M-MDU 30%  L-MDU 15%  L-MDU 30%

CAPEX FTTH ($)  CAPEX FTTep ($)
FTTp – A Multi-Gigabit Path Forward for Copper Broadband Technology

MoCA Access™ 2.5
• Available NOW!
• Enables existing building wiring to reduce build costs and disruptions
  • At least <30% total cost of ownership (TCO) of full FTTH fiber builds

MoCA Access™ 3.0
• Clear path to 10Gbps performance
• Existing MDU solutions could be field upgradable
Dr. Jim Crammond, MoCA President

Bio: An early proponent of MoCA standards, Dr. Crammond, Senior Director of Cable Business Development at MaxLinear, and before that in Intel’s Connected Home Division, brings more than 20 years of well-honed experience in technical management and customer-oriented marketing to the office of MoCA President.

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Mr. Mike Talbert, MoCA Vice President

Bio: Mr. Talbert has over 20 years of experience working specifically with Customer Premise Equipment. His focus has been premise architecture with Wi-Fi and Service Assurance as additional fields of interest. In his current position at Verizon as Associate Fellow has Mike focused on driving additions and changes to existing standards that enhance next generation architecture. Mike is bilingual in both English and Spanish. Mike is currently the President of the Broadband Forum, the Vice Chair of the Service Provider Action Council, and Vice President of the MoCA Alliance.

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MoCA:

http://www.mocalliance.org/access/index.htm