802.3bn Link Ad Hoc

Summary & Update

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Summary

- Conference calls
  - 3 Calls averaging 17 attendees per call
  - Thursday at 9am Pacific Time
  - 2 presentations made
  - Initial focus on Defining Topics & Link Transport

- We have an Overview and Link Topics

- We have started a list of "Parameters & Status Indicators" and Evaluation Criteria

- We have a list of questions related to Link Transport

OVERVIEW & TOPICS

Overview

- Objective
  - Define the process for the CLT PHY to connect to CNU PHY before the MAC is enabled.
  - Define any re-negotiation or PHY parameter procedure.
  - Define the PHY parameters to be configured over MDIO & Auto-Negotiation
  - What happens after CLT PHY & CNU PHY power up?
  - What parameters are PHY? (others are MAC)

- Output of the Ad Hoc
  - Baseline proposal
    - A single agreed solution is best.
    - Two or more options with pros and cons is the other option.
  - Joint Presentation for next meeting

Link Topics

- Link Transport
  - Upstream
  - Downstream
  - e.g. Time Inserted or Frequency Inserted, or other
  - Protocol

- Auto-negotiation-Link state machine
  - Finding the Downstream
  - Speeding up the process
  - Initial Upstream

- Message Format & Addressing
  - e.g. Address + Register Pages

- Protocol
  - Dynamic or Static: Master or Slave, who makes change
  - e.g. Echo Protocol

- Parameters and Status Indicators
  - See following slide

- MAC Discovery Compatibility

Parameters & Status Indicators

System Wide

- TDD or FDD

Downstream Possible List

- 192MHz OFDM Channels Characteristics
    - Cyclic Prefix, FEC, Interleaver, symbol length
- 192MHz OFDM Channels: Available Sub-Carrier
- 192MHz OFDM Channels: Sub-Carrier Modulation Order

Upstream Possible List

- 192MHz OFDM Channels Characteristics
    - Cyclic Prefix, FEC, Interleaver, symbol length
- 192MHz OFDM Channels: Available Sub-Carrier
- 192MHz OFDM Channels: Sub-Carrier Modulation Order
- Transmit Power Level
- Transmit Offset

Evaluation Criteria

- Link establishment time.

- Simplicity

- Must work all of the time

- Must work below the MAC

LINK TRANSPORT

Link Transport Notes

- **How many CNUs are supported?**
  - In general, this is a design specification issue but we need to size fields.
  - Fields should be 15 bits to match LLID size.
  - Practical Numbers for analysis: 256 CNU PHYs per CLT PHY. (8 LLIDs per CNU, what does really mean to the PHY?)

- **Do we need a Link configuration on the CLT PHY for every CNU PHY?**
  - Some parameters will be common but others will be unique.
  - If we have to specify transmit power, delay offset, etc; they would be unique.

- **How wide is the frequency transport?**
  - Not discussed yet

- **How fast does it need to be? What is the data rate?**
  - Not discussed yet

- **How is the initial contention handled?**
  - Not discussed yet

- **Do we need to detect collisions or just provide avoidance?**
  - Not discussed yet

- **How do we find the initial downstream channel?**
  - Not discussed yet

- **Do we need to acknowledge information from CLT PHY to CNU PHY?**
  - Not discussed yet

THANK YOU