IEEE 802.3ap

Signaling Ad Hoc Work Def$^{\underline{n}}$

IEEE 802.3ap Task Force

6 Aug'04

(Modified from 5 Aug'04 ad hoc meeting)

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Signaling Ad Hoc Topics - 1

Simulation

- Set a common simulation methodology
  - So that results can be compared directly
  - Minimize simulation and result reporting uncertainty
  - Need a strawman proposal for this before next conf call
- Common sim platform
  - Low pirority - methodology more important than sim platform
  - Matlab? Hspice? Other?
- Channel ad hoc spec usage in simulations
  - Channel ad hoc defines link between TP1 and TP4
  - Define component edge to TP1, TP4 to component edge
    - Depends on *exact* TP1 and TP4 location
  - Incorporation of channel loss, reflections, NEXT & FEXT
  - Incorporate time variations of channel

Signaling Ad Hoc Topics - 2

Signaling Candidates

- Current proposals: NRZ, PAM4, Duobinary (PR2)
- Are there other candidates?
- Signaling & equalization proposals must be connected
- Test Patterns
  - PCS and line code dependent

Michael Altmann
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Signaling Ad Hoc Topics - 3

Solution Comparison Metrics

- Power consumption
- BER and Reach performance
  - Need assessment methodology and metrics
- Latency
- Complexity & relative cost
- Robustness
  - Measurement metric
  - Against crosstalk and decision errors
- RFI/EMI considerations
- Compatibility with 4-lane (10Gb) and serial GbE

Michael Altmann
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Signaling Ad Hoc *NON-TOPICS*

- Implementation-specific requirements (ESD, etc)
- Specific training and power-up requirements
- Controls and OOB signaling requirements

Michael Altmann
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Meeting Schedule

- Thursday, August 5 (8:00AM PDT)
  - Signaling ad hoc introduction
  - Discuss initial work items for group

- **Monday, August 23 (8:00AM PDT)**
  - Channel simulation model draft - for early sims
  - Define link model, test points, and test patterns
  - Solution comparison criteria

- **Thursday, September 2 (8:00AM PDT)**
  - Define sections of the link model not covered by the channel ad hoc
  - Review NEXT / FEXT considerations (definition of aggressors)

- **Thursday, September 16 (8:00AM PDT)**
  - Finalize channel simulation models for studies
    - Use data from channel model ad hoc when available
  - Run sims and report results