

Channel Modeling ad hoc report

IEEE P802.3bq 40GBASE-T Task Force

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Channel Modeling ad hoc charter and scope/deliverables

- Define a set of channel models for PHY complexity evaluation, including host channel model
- Provide early feedback on key parameters to cabling bodies (Can a parameter be improved? Is a relaxation a cost benefit?)

Channel Modeling ad hoc activity since March 2014

- Three well attended channel modeling ad hoc calls – April 8th, April 24th, and May 6th
 - Two “stand alone”, one joint meeting with the PHY Baseline Proposal ad hoc
- Meeting minutes and contributions are available at the 40GBASE-T website [channel modeling ad hoc area](http://www.ieee802.org/3/bq/public/channelmodeling/index.html)
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- Recent emphasis: System background noise
 - Responding to requests from the P802.3bq PHY Baseline Proposal ad hoc

Channel Modeling ad hoc activity since March 2014

- Meeting highlights
 - Continuing discussion and activities related to system background noise
 - Follow-on activities from Beijing, including improved measurement techniques (lower noise floor), additional systems (servers and switches) and time-domain/real-time measurements
 - New discussions on “cable dynamics” (mechanical movement of a physical link resulting in a time-varying channel response, which in turn can affect the Ethernet physical layer performance)
- Reminder: A basic set of elements for an end-to-end channel is available at the P802.3bq task force [channel data](#) area
 - <http://www.ieee802.org/3/bq/public/channeldata/index.html>
 - We now have a large number of potential model elements available
 - To minimize/eliminate any confusion about what’s available, we will be creating and posting an element “decoder ring” workbook

Channel Modeling ad hoc next steps

- Further work
 - Complete any remaining work associated with system background noise - most PHY Proposal ad hoc requests have been met at this time
 - Define work as needed to better characterize cable dynamics
 - Continue to refine cable channel definitions and share results, including identifying a subset (“Top X”) of PHY-to-PHY channel model configurations that are recommended for use in establishing our PHY baseline proposal
 - Expand MDI and isolation path data set
- Next meetings
 - Are held (generally) every other Tuesday at 8:00AM PST
 - Meeting weeks are scheduled to alternate with the P8032.3bq PHY Baseline Proposal ad hoc
 - Next ad hoc is scheduled for Tuesday, May 20th, 2014
- Thanks to all ad hoc contributors and participants
 - You can be a contributor, too!

Thank You!