Plan for EIT value generation (for 10GBASE-KR)

General idea:

1. Simulate channels, including Xtalk, which are near the limit of what we plan to support, under conditions which they are likely to see in actual use, i.e. including 50mUI DCD as part of the DJ.
2. Simulate the interference tolerance test with varying EIT baseline.
3. Find the EIT baseline value which produces a receiver stress level equivalent to the worst stress seen in part 1. Measure of receiver stress level will be simulator dependent. Set that as the EIT baseline value for 10GBASE-KR.
4. In light of interest in broadband (noise like) interference tolerance testing, simulate interference with noise like interference of varying RMS value.
5. In a similar way, find noise level which produces receiver stress equivalent to worst stress seen in part 1 and use that noise level in interference tolerance test.

More details:

1. Who does the simulations? Ask:
   a) Intel: Fulvio
   b) Intel: Prakash
   c) IBM: Joe
   d) Broadcom: Howard, Magesh
   e) Quake: Matt
   f) Others who volunteer
2. Which channels to use for operating channels?
   a) Tyco Case7
      i. Thru= Dambrosia_7T
      ii. Next1=DAmbrosia_7N1
      iii. Next2=DAmbrosia_7N2
      iv. Fext=DAmbrosia_7F
   b) m_82_ripple_90 with crosstalk from Dambrosia_7T.
      i. Next1=DAmbrosia_7N1
      ii. Next2=DAmbrosia_7N2
      iii. Fext=DAmbrosia_7F
   c) m_60_ripple_98 with crosstalk from Molex_Inthru3
      i. Thru=m_60_ripple_98
      ii. Next1=Molex_Innext23
      iii. Next2=Molex_Innext33
      iv. Next3=Molex_Innext43
      v. Next4=Molex_Innext53
      vi. Fext1=Molex_Infext23
      vii. Fext2=Molex_Infext43

   d) Fext3=Molex_Infext53
3. Recommended conditions for operating channel test:
   a) Tx amplitude: 800mV p-p
   b) package model: Spec_RL_pkg_802_3 from channel model library
   c) Resistive termination: 53 Ohm
   d) DCD=50mUI
   e) TJ=280mUI p-p at BER=10^{-12} 150mUI > RJ > 130mUI
   f) Data pattern: PRBS23 or random
   g) Xtalk pattern: random, PRBS other than 23, or PRBS23 with long time offset
   h) Use same Tx equalization in crosstalk channel as in thru channel.
4. Recommended conditions for interference tolerance test
   a) Interference tolerance test channel: ITTC20dB_returnloss. This is in the reflector archive in More channels to simulate dated 2006 Feb 6.
   b) Sinusoidal interference at a near 5 Ghz. Prefer to have other points as well.
   c) Noise like interference test with noise flat or near flat to 10GHz. Measure average PSD from 0-5GHz and from 5GHz-10GHz.

In the event of incomplete simulations try to use simulations to find a budget of EITbaseline, and/or noise level contributions due to various contributers.

Schedule:

Progress review channel model ad-hoc meeting: 2006 April 19
Channel model ad-hoc to generate recommendation: 2006 May 10

Of course all details, and even general idea subject to negotiations.

Charles Moore