

Accurate AMI Analysis - Whose Responsibility Is It?

Panel Discussion: Wednesday January 20, 2015, 3:45-5pm

Moderator: Donald Telian, SiGuys

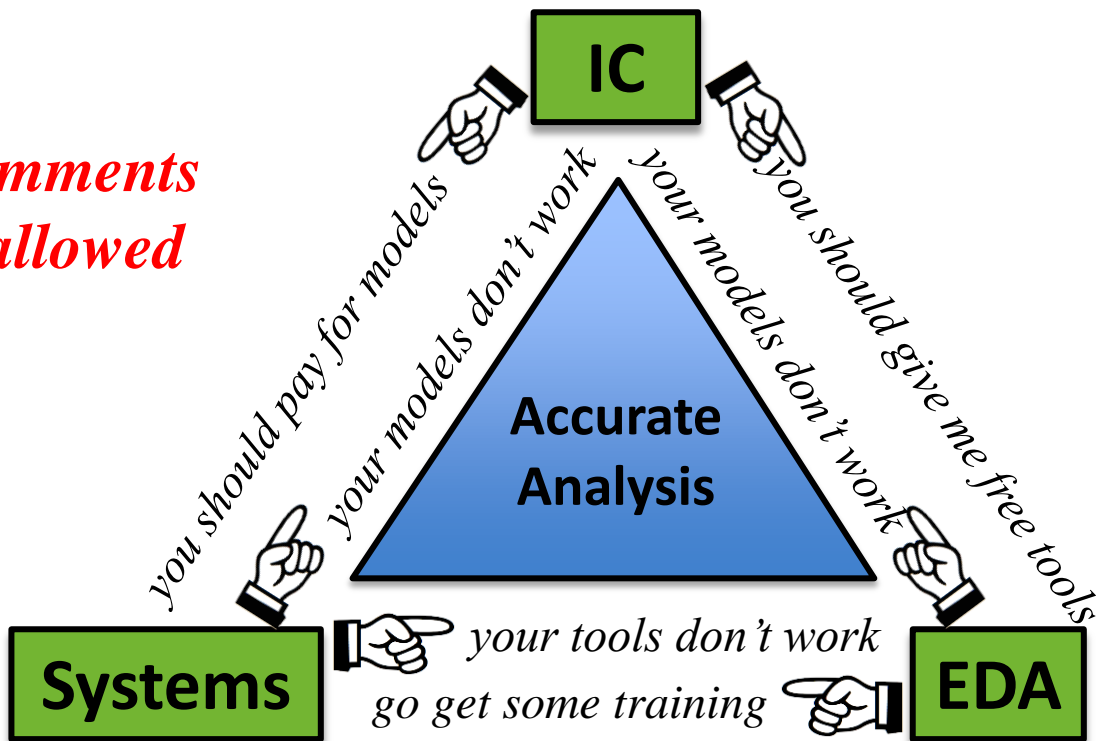
Welcome to the 2016 AMI Technical Panel

- Accurate AMI Analysis – Whose Responsibility Is It?
 - Donald Telian, Signal Integrity Consultant, SiGuys
- Panel Format:
 - 5 questions
 - Timed response
 - The “red flag” is back
 - Audience questions



Whose Responsibility? Can't Be Mine!

*These comments
are not allowed*



PANEL:

2 IC

2 Systems

2 EDA



Panelists

- Bob Miller, Avago Technologies
- Todd Westerhoff, SiSoft
- Stephen Scarce, Cisco
- Aleksey Tyshchenko, Intel
- Fangyi Rao, Keysight Technologies
- Greg Edlund, IBM



Question #1 of 5

Introduce yourself and your role at your company.

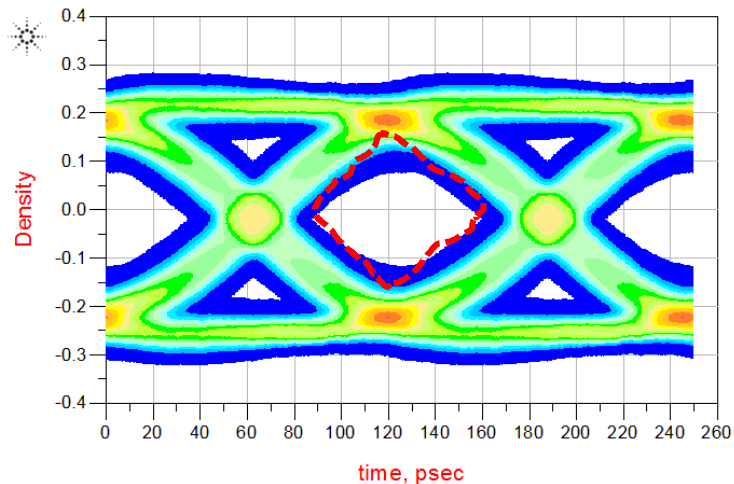
Outline your company's and your personal involvement with AMI models.

Question #2

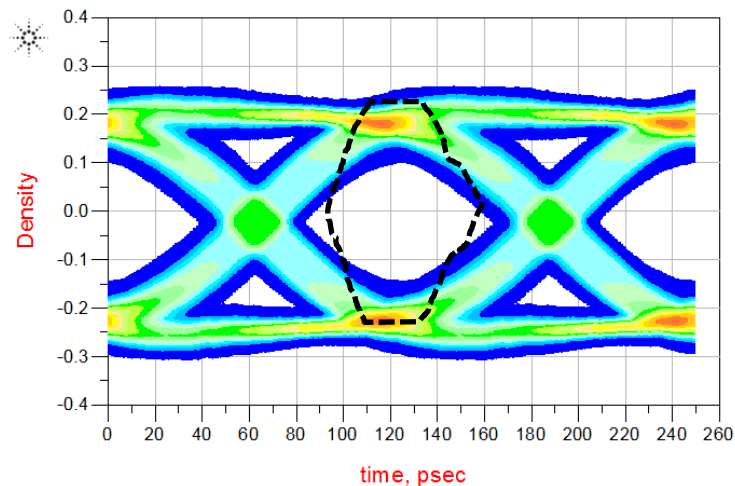
An increasing amount of design decisions are based on AMI-based simulation results.

To what degree can we trust such analyses, and under what conditions?

Model-to-Hardware Correlation Case 1



Worst-case model **225 mV x 75 ps**
Worst-case lane **375 mV x 90 ps**

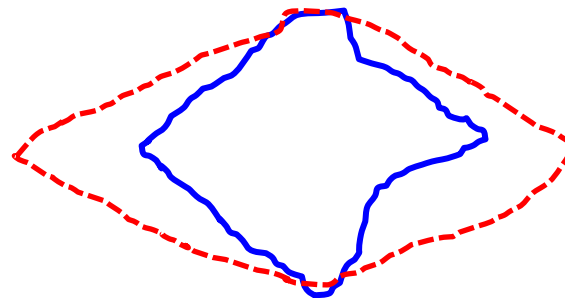


Best-case model **255 mV x 80 ps**
Best-case lane **810 mV x 95 ps**

Model-to-Hardware Correlation Case 2

<u>Lane</u>	<u>CTLE</u>	<u>mV</u>	<u>ps</u>
1	2	50	80
3	3	100	90
2	4	125	90
0	5	150	90

Measured amplitude tracks with CTLE.
Lane-to-lane loss varies ~2 dB.



Model 200 mV x 75 ps
Hardware 190 mV x 90 ps



Question #3

What AMI improvements are you currently working on?

What AMI improvements do you need others to provide, and specifically from whom?



Question #4

Is the matrix of AMI model and analysis types manageable or is it too large?

What types of analyses should we focus on in 2016, and how do we get there?

Can the IBIS Committee help?



Question #5

What should engineers from each discipline
(IC, Systems, EDA)
be doing to improve the quality of AMI models and analysis?

What processes and automation exist to validate AMI
models and analysis, what is lacking,
and what can we expect to see in the coming year?



AUDIENCE QUESTIONS





UBM

THANK YOU

