

SiSoft™



# IBIS PARSER BUG90 Ad-Hoc Presentation

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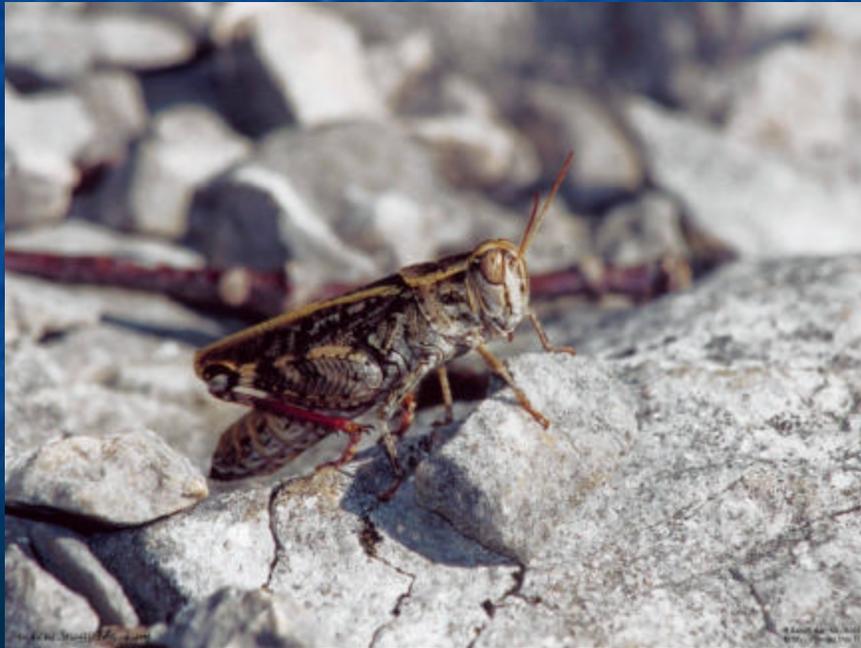
978-461-0449 X 15

# What is BUG90 About

- If an IBIS file has a  $V_{meas}$  outside  $V_{ih}/V_{il}$  no warning is issued.
  - I.e.  $V_{meas} = 1.65V$ ,  $V_{inh} = 1.6V$ ,  $V_{inl} = 0.9V$
- In most cases this is representative of a flawed IBIS File
  - This parser check only applies to I/O's
- The IBIS Quality Committee proposes that a new Parser warning message be created. The "Caution" would be created to add a class of checks to significantly enhance the present IBIS Parsers capability.
  - The new checks would be enabled with a command line switch to minimize additional spurious warnings for traditional IBIS model users, but will aid the model creator, reviewer and advanced users with enhanced automatic IBIS parser checking capability.
- One reason why the  $V_{inl}$  and  $V_{inh}$  enclose  $V_{meas}$  check is a caution is because there are legitimate cases, but predominantly its a mistake if this is done.

# BUG90

- Good News
  - Accepted and classified by IBIS open Forum !
- Bad News
  - Is IBIS parser Funding adequate ?



# What Do you think ?

- Push one caution through
- Prioritized list of cautions
- Deprecate some warnings to cautions
- Identify cautions (missing checks) that should be warning



# Partial List

- [Comment Char] - Changing the comment character is not advised.
- [Package] Parasitics must be reasonable - Reasonable values are:  $L < 10\text{nH}$ ,  $C < 20\text{pF}$ ,  $R < 1\text{ ohm}$
- [Pin] RLC complete - RLC is optional on pins. If not defined either leave blank or use
- [Diff Pin] Vdiff and Tskew complete and reasonable-Vdiff defined and should be non-zero and positive
- [Model] C\_comp is reasonable - C\_comp must be defined, positive and less than 20pF
- [Model] C\_comp is correct-C\_comp must represent the TOTAL die capacitance as specified in data sheet
- [Model] Vinl and Vinh enclose Vmeas - For I/O buffers Vinl and Vinh values should be below and above, respectively, Vmeas .LEVEL 0 [Model Spec] Vinl+/Vinh+ greater than Vinl-/Vinh- - Vinh+ is greater than Vinh-, and Vinl+ is greater than Vinl-
- [Model Spec] Vinl+/- and Vinh+/- enclose Vmeas
- [Model Spec] Pulse\_time reasonable - Pulse\_time is less than the minimum rise time and fall time
- [Model Spec] S\_Overshoot subparam complete -All input and I/O buffers have S\_overshoot\_high and S\_overshoot\_low
- I-V tables have correct typ/min/max order-Area calculation
- [Pullup] voltage sweep range is correct-The sweep for [Pullup] should be made between -vcc to 2\*vcc
- [Pulldown] voltage sweep range is correct-The sweep [Pulldown] should be made between -vcc to 2\*vcc
- [Power Clamp] voltage sweep range is correct - The [Power Clamp] should turn on near supply voltage
- [GND Clamp] voltage sweep range is correct-[GND Clamp] should turn on ~ one Diode drop below 0.0