IBIS Status and Future Direction

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Agenda

- IBIS as Organization and Standard
- IBIS 5.0
- Touchstone 2.0
- IBIS-ISS 1.0
- Timeline for Changes
- Call to Action

Specifications and Technologies

- IBIS: both an organization and a standard
- IBIS – I/O Buffer Information Specification
  - Version 5.0 today (includes IBIS-AMI support)
- Touchstone 2.0
  - Ratified April 2009
  - TSCHK2 parser also offered
- IBIS-ISS: Interconnect SPICE Subcircuit
  - Version 1.0 ratified October 2011

IBIS Specification Direction

- 5.1: Clarifications and Style Improvements
  - New, more readable format
  - Significant changes to IBIS-AMI
    - *Version control, plus clarifications to clocking, tables, crosstalk*
  - Support for weak tie-up/tie-down definitions
  - Clarifications to [Composite Current]
  - Fixes to EBD format
  - Fixes to [Test Data] and [Test Load]
- 5.2: Major features, still under discussion
  - Support for repeaters
  - Links to IBIS-ISS, Touchstone
  - C_comp clarifications

Touchstone 2.x

- Description/format for network parameters
  - Primary use in industry is for S-parameters
  - 2.0 introduces mixed-mode support and per-port impedance
- Touchstone 2.1/3.0 Approved Changes
  - Sparse Matrix format
  - Binary file representation (compression)
- Change under discussion
  - Support for explicit port-node mapping

IBIS-ISS 1.0

- Interconnect SPICE Subcircuit Specification
- Universal SPICE format for interconnects
  - Packages, cables, connectors, traces, etc.
- Basic SPICE elements supported
  - R, L, G, C, some sources
- Supports Touchstone, W-element data
  - Both frequency and time domains supported

Long-term successor to PKG, EBD, ICM

Timeline for Changes

- IBIS 5.1
  - Expecting changes to close by end of 2011
  - Draft complete and in approval cycle in Q1'12
- Touchstone 2.1
  - Q1'12 for approved changes
- Touchstone 3.0 & IBIS-ISS 1.0
  - Does IBIS-ISS resolve port-node mapping issue?

Key challenge:
smoothly linking all three specifications

Call to Action

- For tool vendors…
  - Are you planning to support these improvements?
- For system designers
  - Can you use these to improve your design margins?
- For IC vendors
  - Can these help you better specify your devices?

Please become familiar with the specifications and provide feedback!

For More Information…

- IBIS 5.0
  - http://www.eda.org/ibis/ver5.0/
- IBIS-ISS 1.0
  - http://www.eda.org/ibis/ibis-iss_ver1.0/
- Touchstone 2.0
  - http://www.eda.org/ibis/touchstone_ver2.0

Q/A