# 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*