

# IBIS Chair's Report



<http://www.ibis.org/>

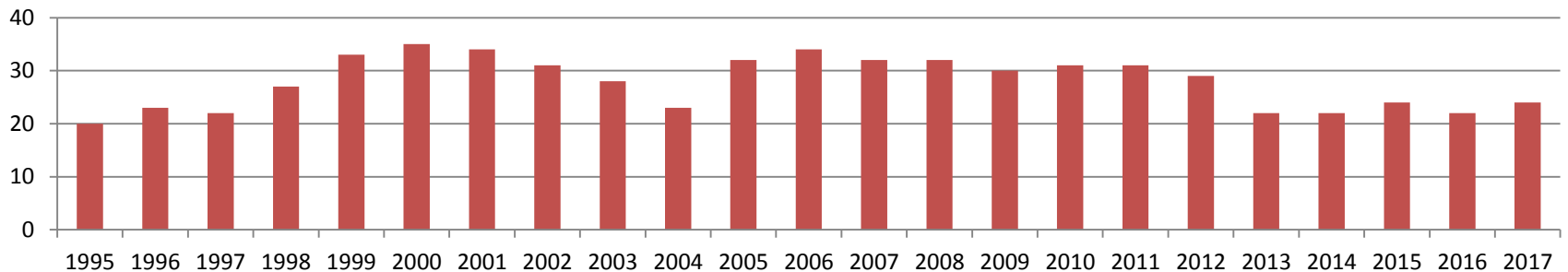
Mike LaBonte  
Signal Integrity Software  
Chair, IBIS Open Forum

DesignCon 2017 IBIS Summit  
Santa Clara, CA  
February 3, 2017

# 24 IBIS Members



Number of Members by Year



# IBIS Officers 2016-2017

Chair:	<i>Mike LaBonte, Signal Integrity Software</i>
Vice-Chair:	<i>Lance Wang, IO Methodology Inc.</i>
Secretary:	<i>Randy Wolff, Micron Technology</i>
Treasurer:	<i>Bob Ross, Teraspeed Labs</i>
Librarian:	<i>Anders Ekholm, Ericsson</i>
Postmaster:	<i>Curtis Clark, ANSYS</i>
Webmaster:	<i>Mike LaBonte, Signal Integrity Software</i>

*2017 Officer Election nominations open May 17*

# IBIS Meetings

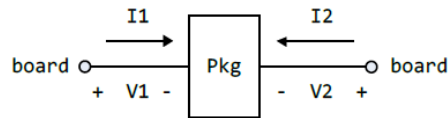
- Weekly teleconferences
  - Quality Task Group (Tuesdays)
  - Advanced Technology Modeling Task Group (Tuesdays)
  - Interconnect Task Group (Wednesdays)
  - Editorial Task Group (some Fridays, now suspended)
- IBIS Open Forum teleconference every 3 weeks
  - 475 meetings so far
- IBIS Summit meetings: DesignCon, SPI, Shanghai, Taipei, Tokyo, EPEPS?, EDI-CON?

# Specification Work In Progress

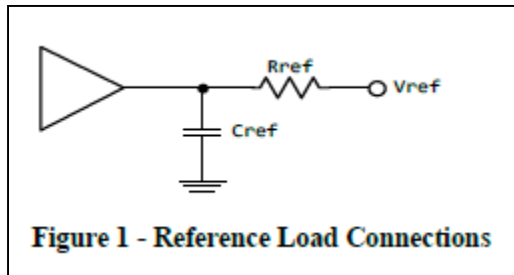
- Interconnect Task Group
  - Chair: Michael Mirmak
  - Develop on-die/package/connect modeling BIRDs
- Advanced Technology Modeling Task Group
  - Chair: Arpad Muranyi
  - Develop most other technical BIRDs
- Editorial Group
  - Chair: Michael Mirmak
  - Produce IBIS Specification documents

# In Progress: IBIS 6.2

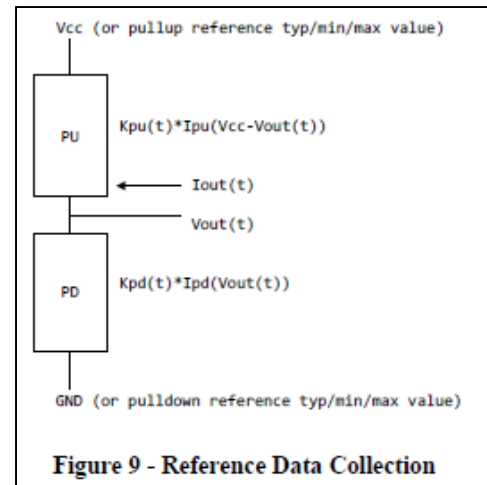
- Purpose: Clarify reference terminal conventions in IBIS
- BIRDs submitted, discussed in ATM Task Group
- Editorial Task Group will resume after BIRDs passed



**Figure 31 - Package Matrix Voltage Polarities and Current Directions**




**Figure 1 - Reference Load Connections**



**Figure 9 - Reference Data Collection**

# IBIS Milestones

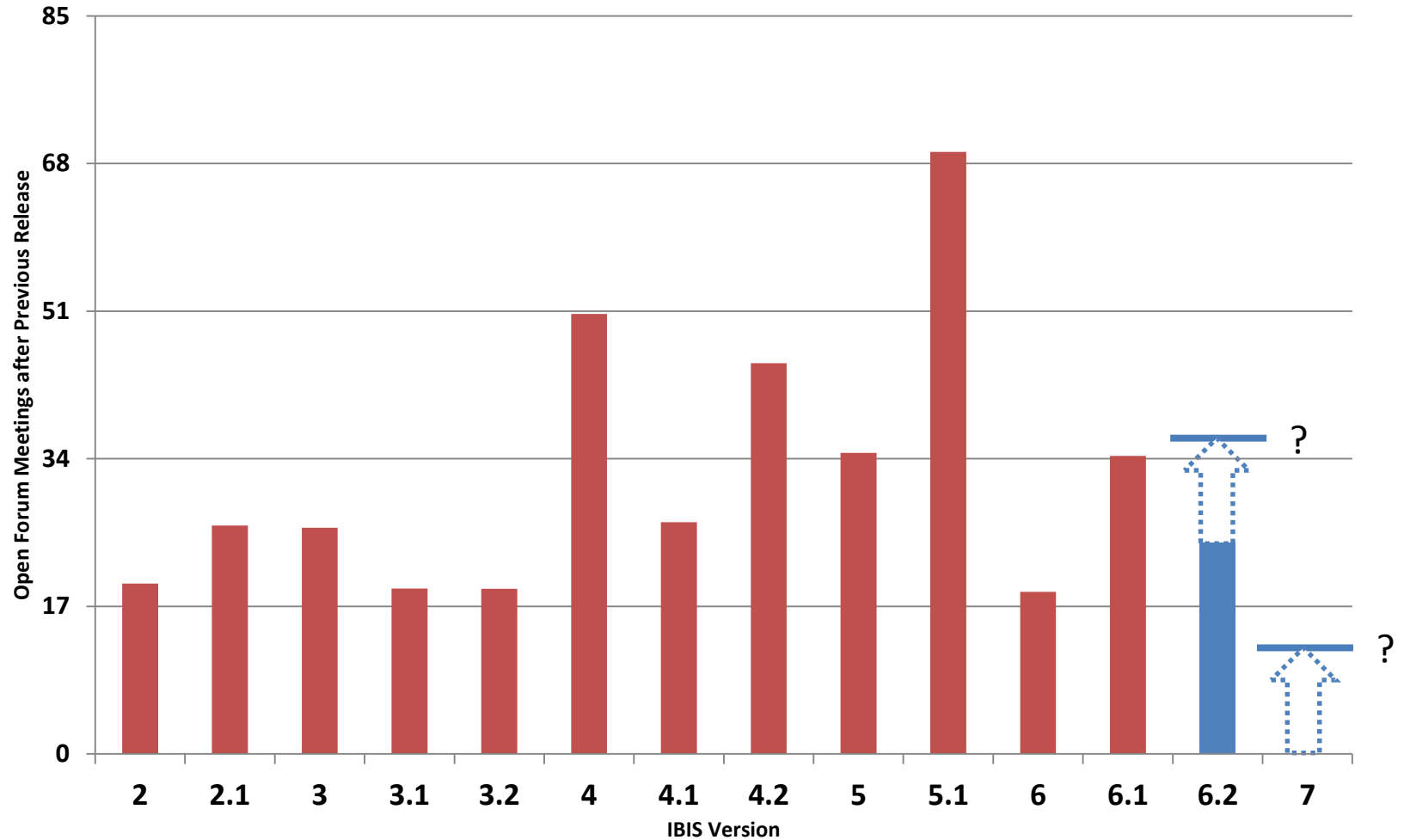
## I/O Buffer Information Specification

- 1993-1994 **IBIS 1.0-2.1:**
    - Behavioral buffer model (fast simulation)
    - Component pin map (easy EDA import)
  - 1997-1999 **IBIS 3.0-3.2:**
    - Package models
    - Electrical Board Description (EBD)
    - Dynamic buffers
  - 2002-2006 **IBIS 4.0-4.2:**
    - Receiver models
    - AMS languages
  - 2007-2012 **IBIS 5.0-5.1:**
    - IBIS-AMI SerDes models
    - Power aware
  - 2013-2015 **IBIS 6.0-6.1:**
    - PAM4 multi-level signaling
    - Power delivery package models
  - 2017? **IBIS 6.2**
  - 2018? **IBIS 7.0**
- 

## Other Work

- 1995: **ANSI/EIA-656**
  - IBIS 2.1
- 1999: **ANSI/EIA-656-A**
  - IBIS 3.2
- 2001: **IEC 62014-1**
  - IBIS 3.2
- 2003: **ICM 1.0**
  - Interconnect Model Specification
- 2006: **ANSI/EIA-656-B**
  - IBIS 4.2
- 2009: **Touchstone® 2.0\***
- 2011: **IBIS-ISS 1.0**
  - Interconnect SPICE Subcircuit specification

# IBIS Version Development



As of 3-Feb-2017



# Possible IBIS 6.2 Timeline

Mtg#	Date	Milestone
1	1/06/2017	
2	1/27/2017	
3	2/17/2017	Resolution to cut off debate for 6.2 BIRD set on Apr 21 passes
4	3/10/2017	
5	3/31/2017	
6	4/21/2017	Vote to approve 6.2 BIRD set is scheduled for next meeting
7	5/12/2017	6.2 BIRD set accepted. Editorial begins
8	6/02/2017	
9	6/23/2017	
10	7/14/2017	
11	8/04/2017	Editorial announces 6.2 ready. Review period begins
12	8/25/2017	
13	9/15/2017	Vote to ratify 6.2 scheduled for next meeting
14	10/6/2017	6.2 ratified. Discussion of 7.0 BIRDs picks up

# Possible IBIS 7.0 Timeline

Mtg#	Date	Milestone
14	10/6/2017	6.2 ratified. Discussion of 7.0 BIRDs picks up
15	10/27/2017	Resolution to cut off debate for 7.0 BIRD set Jan 5 passes
16	11/17/2017	
17	12/8/2017	
1	1/5/2018	Vote to approve 7.0 BIRD set is scheduled for next meeting
2	1/26/2018	7.0 BIRD set accepted. Editorial begins
3	2/16/2018	
4	3/9/2018	
5	3/30/2018	
6	4/20/2018	Editorial announces 7.0 ready. Review period begins
7	5/11/2018	
8	6/1/2018	Vote to ratify 7.0 scheduled for next meeting
9	6/22/2018	7.0 ratified

# Possible BIRDs for 6.2

BIRD	Title
179	New IBIS-AMI Reserved Parameter Special_Param_Names
180	Require Unique Pin Names in [Pin]
181.1	I-V Table Clarifications
182	POWER and GND [Pin] signal_name as [Pin Mapping] bus_label
183	[Model Data] Matrix Subparameter Terminology Correction
184.2	Model_name and Signal_name Restriction for POWER and GND Pins
185.2	Section 3 Reserved Word Guideline Update
187.2	Format and Usage Out Clarifications
188.1	Expanded Rx Noise Support for AMI

Green = accepted BIRD

# Possible BIRDs for 7.0

BIRD	Title
125.1	Make IBIS-ISS Available for IBIS Package Modeling
145.3	Cascading IBIS I/O buffers with [External Circuit]s using the [Model Call] keyword
147.5	Back-channel Support
158.3	AMI Touchstonefile Analog Buffer Models
161.1	Supporting Incomplete and Buffer-only [Component] Descriptions
163	Instantiating and Connecting [External Circuit] Package Models with [Circuit Call]
164	Allowing Package Models to be defined in [External Circuit]
165	Parameter Passing Improvements for [External Circuit]s
166	Resolving problems with Redriver Init Flow
186	File Naming Rules
189	Interconnect Modeling using IBIS-ISS
???	<i>Future BIRDs: Redriver Flow, etc.</i>

# Questions

- Should the IBIS 7.0 timeline be stretched out to incorporate more “dwell time”?
  - Address problems that might be found in 6.2
  - Accommodate more new functionality
- Should additional functionality be accepted for 6.2, to make them available sooner?
  - Significant new parser work would not be funded by source code purchases (no charge for dot releases)
- Should the next release be 7.0?

# [Thank You]



IBIS Open Forum:

Web: <http://www.ibis.org>

Email: [ibis-info@freelists.org](mailto:ibis-info@freelists.org)

We welcome participation by all IBIS model makers, EDA tool vendors, IBIS model users, and interested parties.