

# IBIS Update



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

Mike LaBonte

SiSoft

Chair, IBIS Open Forum

2018 DesignCon IBIS Summit

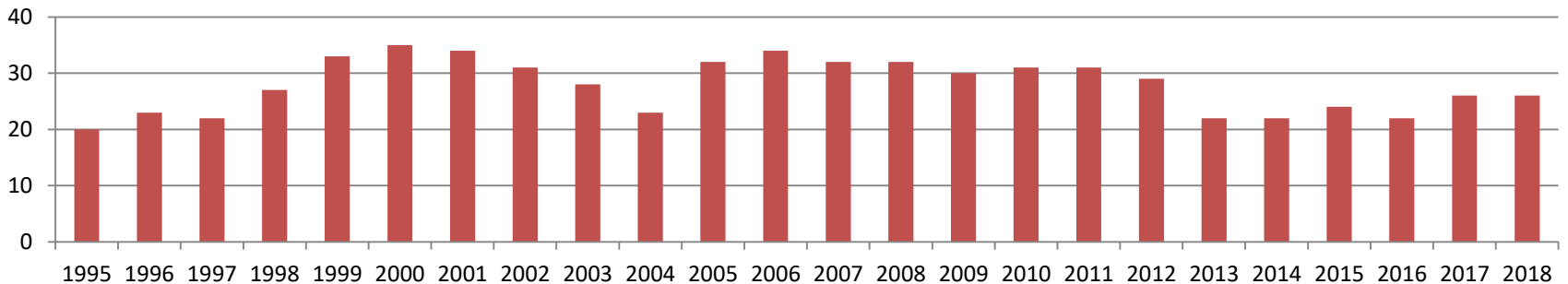
Santa Clara, California

February 2, 2018

# 26 IBIS Members

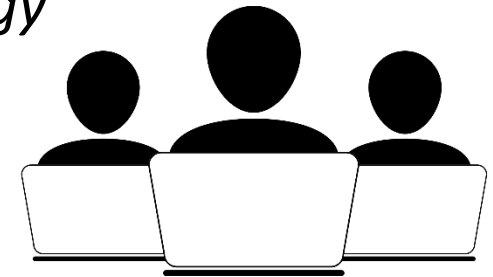


Number of Members by Year



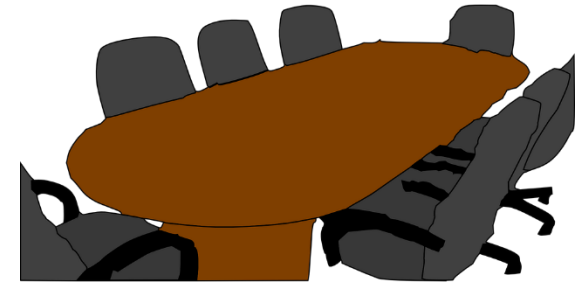
# IBIS Officers 2017-2018

- Chair: *Mike LaBonte, SiSoft*
- Vice-Chair: *Lance Wang, IO Methodology Inc.*
- Secretary: *Randy Wolff, Micron Technology*
- Treasurer: *Bob Ross, Teraspeed Labs*
- Librarian: *Anders Ekholm, Ericsson*
- Postmaster: *Curtis Clark, ANSYS*
- Webmaster: *Mike LaBonte, SiSoft*



*2018 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)
- IBIS Open Forum teleconference every 3 weeks
  - 499 meetings so far
- IBIS Summit meetings: DesignCon, IEEE SPI, EDICON USA, EPEPS, Shanghai, Taipei, Tokyo

# SAE ITC

- SAE Industry Technologies Consortia is the parent organization of the IBIS Open Forum
- IBIS is assisted by SAE employees José Godoy, Phyllis Gross, Dorothy Lloyd
- SAE ITC provides financial, legal, and other services
- <http://itc.sae.org/>



# Task Groups

- Interconnect Task Group
  - Chair: Michael Mirmak
  - [http://ibis.org/interconn\\_wip/](http://ibis.org/interconn_wip/)
  - Develop on-die/package/module/connector interconnect modeling BIRDs
- Advanced Technology Modeling Task Group
  - Chair: Arpad Muranyi
  - [http://ibis.org/atm\\_wip/](http://ibis.org/atm_wip/)
  - Develop most other technical BIRDs
- Quality Task Group
  - Chair: Mike LaBonte
  - [http://ibis.org/quality\\_wip/](http://ibis.org/quality_wip/)
  - Oversee IBISCHK parser testing and development
- Editorial Task Group
  - Chair: Michael Mirmak
  - [http://ibis.org/editorial\\_wip/](http://ibis.org/editorial_wip/)
  - Produce IBIS Specification documents

BIRD = Buffer Issue Resolution Document

# IBIS Milestones

## I/O Buffer Information Specification

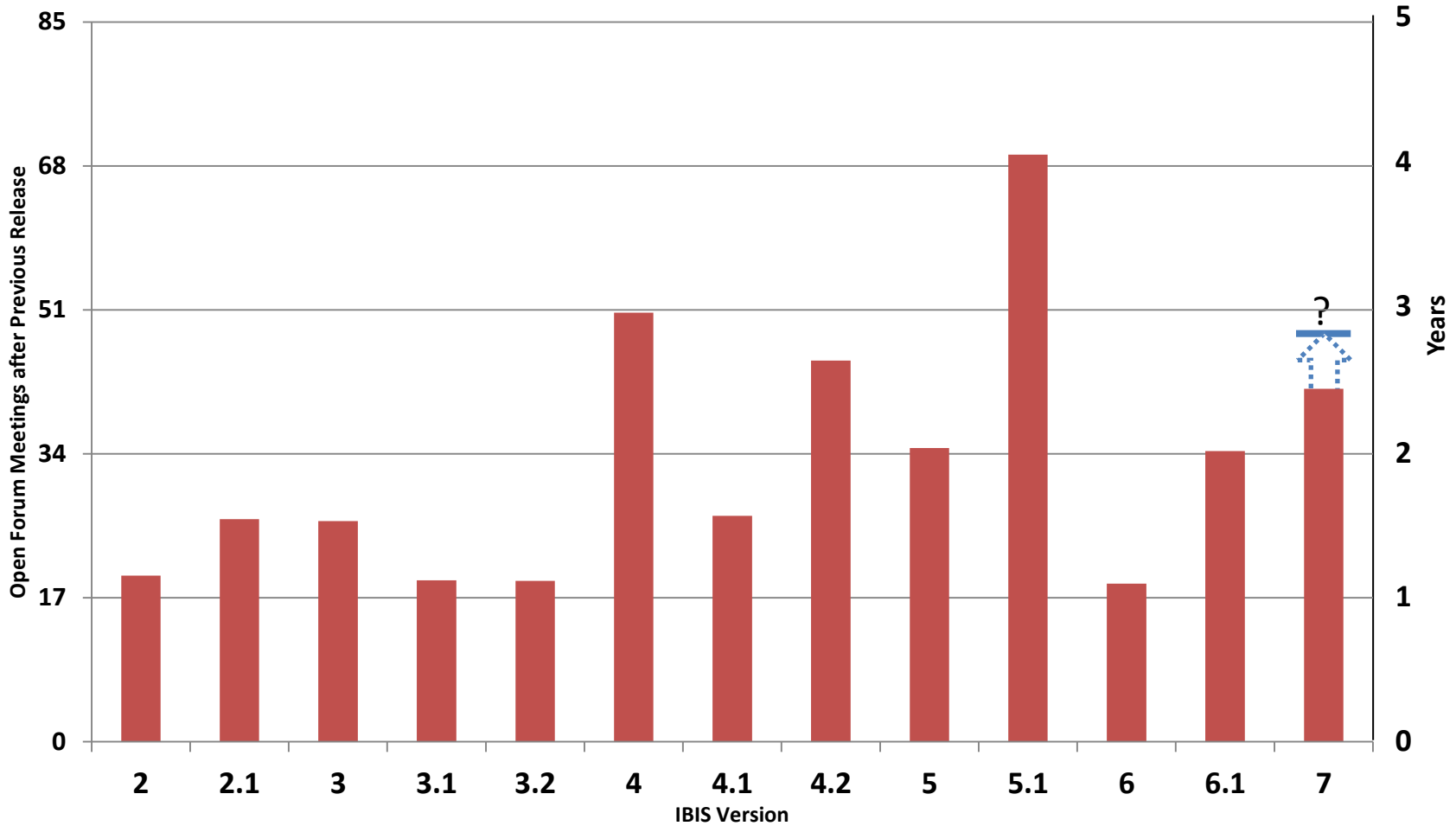
- 1993-1994 **IBIS 1.0-2.1:**
  - Behavioral buffer model (fast simulation)
  - Component pin map (easy EDA import)
- 1997-1999 **IBIS 3.0-3.2:**
  - Package models
  - Electrical Board Description (EBD)
  - Dynamic buffers
- 2002-2006 **IBIS 4.0-4.2:**
  - Receiver models
  - AMS languages
- 2007-2012 **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
- 2018? **IBIS 7.0**

*Current  
development*

## 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 2-Feb-2018



# Possible IBIS 7.0 Timeline

Meeting Date	Milestone
4/21/2017	Vote to establish 7.0 as the next IBIS version passes
5/12/2017	<i>BIRD review and acceptance (10 meetings)</i>
...	...
2/16/2018	
3/9/2018	Vote to approve 7.0 BIRD set is scheduled for next meeting
3/30/2018	7.0 BIRD set accepted. Editorial work begins
4/20/2018	
5/11/2018	Editorial announces 7.0 ready. Review period begins
6/1/2018	
6/22/2018	Vote to ratify 7.0 scheduled for next meeting
7/13/2018	7.0 ratified



# BIRDs Possibly Included in IBIS 7.0

BIRD	Title
147.6	Back-channel Support
158.7	AMI Ts4file Analog Buffer Models
179	New IBIS-AMI Reserved Parameter Special_Param_Names
180	Require Unique Pin Names in [Pin]
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
186.4	File Naming Rules
187.3	Format and Usage Out Clarifications
188.1	Expanded Rx Noise Support for AMI
189.4	Interconnect Modeling Using IBIS-ISS and Touchstone
191.2	Clarifying Locations for Si_location and Timing_location
192.1	Clarification of List Default Rules
193	Figure 29 corrections

Green = currently accepted BIRD

# BIRDs Possibly Excluded from IBIS 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
166.2	Resolving problems with Redriver Init Flow
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
181.1	I-V Table Clarifications
190	Clarification for Redriver Flow

White = currently not an accepted BIRD

# [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.