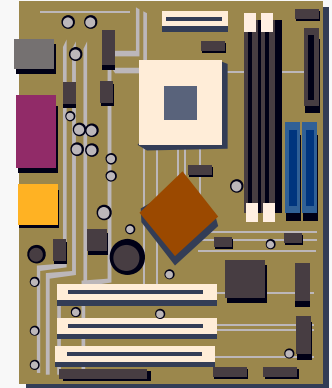

JEITA activity;
IBIS Guide for JAPANESE Engineer

Asian IBIS Summit
Tokyo, Japan
September 14,
2007

KAZUYOSHI SHOJI
HITACHI ULSI SYSTEMS

- Brief introduction of
IBIS OPEN Forum & JEITA activity
- Introduction of IBIS guide in
JAPANESE

- In 1992 INTEL was designing PCI
- SPICE models were very hard to get
- Behavioral model developed
- Standardization started with several EDA vendors
- IBIS OPEN FORUM established



IBIS --- Evolution

Ver. 1.0 ; Released April 1993

First release to the
public

Ver. 2.1; ANSI/EIA-656 Approved Dec. 1995

Became Industrial
standard

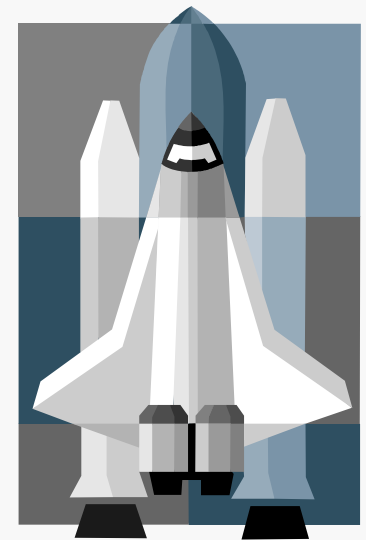
Ver. 3.2; ANSI/EIA-656-A Approved Sept.
1999

With several enhancements as;

EBD model, Differential, Model
selector

Ver. 4.2; ANSI/EIA-656-B Approved 2007

Upgrade with multilingual model



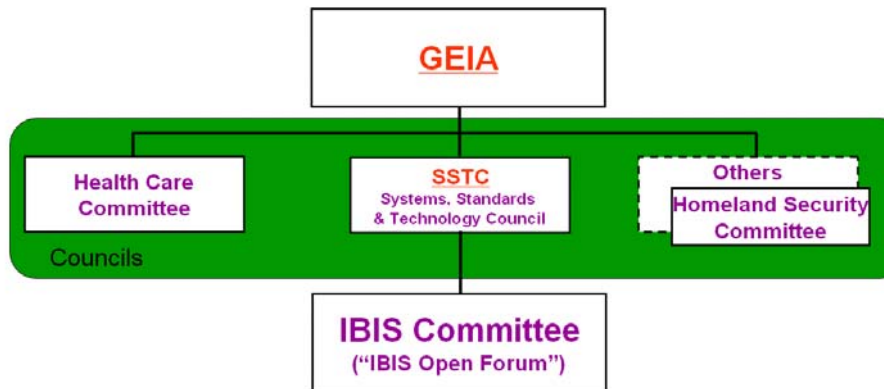
Ver.3.2 models are widely used &
accepted among design community
Strong EDA tool support

System design using IBIS models
became standard method



IBIS OPEN Forum --- organization

IBIS Structure



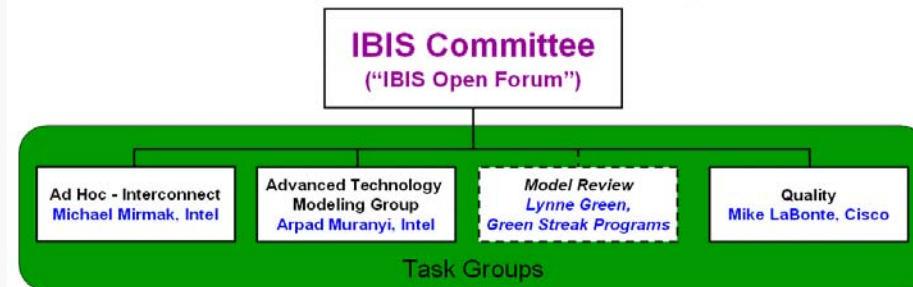
Notes

- GEIA is an ANSI-accredited standards body

2007 IBIS Summit at DAC

9

IBIS Task Groups



Notes

- The Cookbook Task Group has been suspended until critical mass of needed changes is achieved
- The Futures and Macromodeling Library groups have been combined into the Advanced Technology Modeling Group
- EDA vendors comprise Model Review, independently reviewing received models and providing feedback to model authors; no specification changes are recommended by this group and it does not hold meetings
- Participation in the IBIS Task Groups is open to IBIS members and the general public alike
- Task Groups are created and Chairs appointed by the IBIS Chair
- Some issues are handled by Ad Hoc teams for BIRD development

2007 IBIS Summit at DAC

10

Official paid member companies

34 members in 2006

**Including worldwide major
IBIS Users, IBIS Creators
& EDA vendors**

Board Member

Michael Mirmak --- Chair

Syed Huq – Vice-Chair

Randy Wolff – Secretary

Lance Wang – Model Librarian

Bob Ross – Postmaster/"Parliamentarian"

IBIS OPEN Forum --- spec. development

Ver. 1.0 ; Released April 1993

Ver. 1.1 ; Released June 1993 by the IBIS Open Forum at DAC, Dallas

Ver. 2.0 ; Ratified June 1994 by the IBIS Open Forum at DAC, San Diego

Ver. 2.1; ANSI/EIA-656 Approved Dec. 1995

Ver. 3.0 ; Ratified June 1997 by the IBIS Open Forum at DAC, Los Angeles

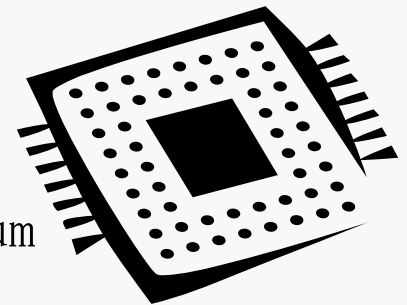
Ver. 3.1 ; Editorial changes implemented.

Ver. 3.2; ANSI/EIA-656-A Approved Sept 1999.

Ver. 4.0; Ratified July 2002 by the IBIS Open Forum

Ver. 4.1; Ratified February 2004 by the IBIS Open Forum

Ver. 4.2; ANSI/EIA-656-B Approved 2007



Official IBIS forum members from JEITA representing model creator.

- NEC Electronics Corporation

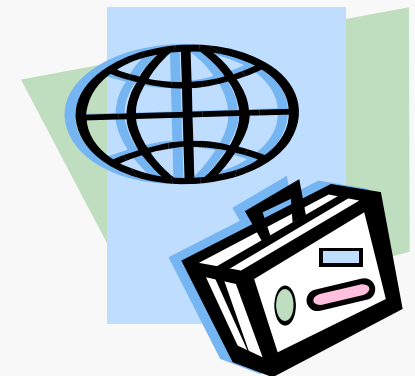
Takeshi Watanabe

- Toshiba Corporation

Yasumasa Kondo

- Hitachi ULSI Systems

Kazuyoshi Shoji



JEITA is supporting IBIS with WG members as;

- **EDA WG leader**
Takeshi Watanabe
- **IBIS quality**
Yasumasa Kondo
- **Interconnect modeling**
Hiroaki Ikeda
- *Promotion*
Kazuyoshi Shoji



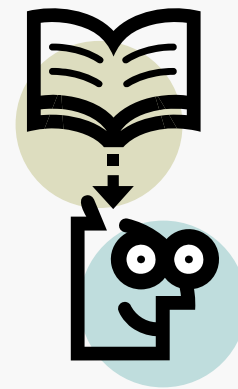
- What is IBIS so far?
- 150 pages of spec. in English !
I don't want read it.
- Spec. is written in very fuzzy words.
What does it mean exactly?
- Need guide in JAPANESE



- Objective

Help Japanese design engineer to
understand IBIS spec. and usage

Provide a reference book in
JAPANESE



- Introduction to IBIS
- Detailed description of spec.
- Basic usage of the models
- Creation of models
- New direction & technology



- Brief history and background of IBIS
- Present status
- Basic example of design, using the models



Detailed description of spec.

- Not a direct translation of the spec.
- Description of key words
- Explain the meaning and intention of key words
- Including some clean-ups



- Several case study from EDA vendors
- Some key technique of using IBIS
- Good reference for beginners
- Help understands Tools

**More EDA vendor
Welcome!**



- Understanding of basic model creation
- Translation of IBIS cookbook

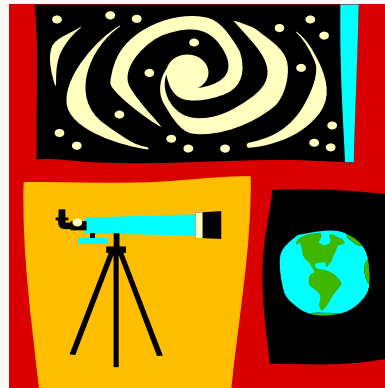
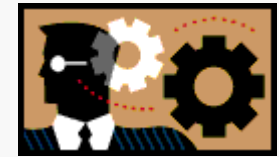


- Some new topics with ver. 4.2 and later
- Interconnect modeling
- EMI issue
- New technology under discussion



Tentative schedule

- Internal draft due end of 2007
- Publish from JEITA early 2008



- System design with IBIS model is now very popular worldwide and in JAPAN
- JEITA is working with IBIS OPEN Forum for promoting IBIS
- For JAPANESE engineer
IBIS guidebook from JEITA is planed



Thank you !



Any question? Mail to:

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HITACHI ULSI Systems
kazuyoshi.shohji.aj@hitachi.com