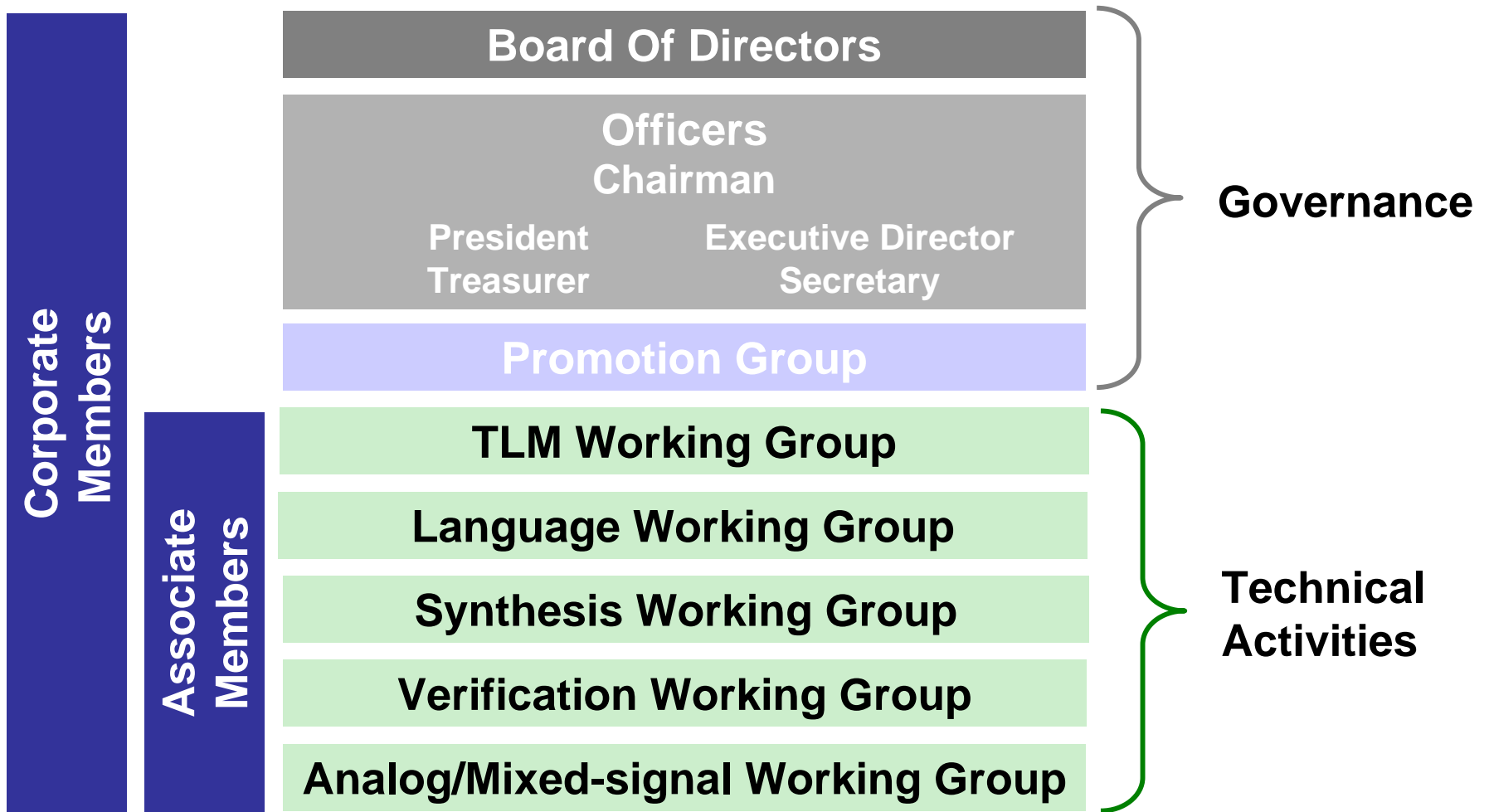




# OSCI Organization



# OSCI Membership

## Corporate Members



## Associate Members



35 member companies total  
Welcome CoFluent, ITRI, STARC, and UMPC!



# OSCI Board of Directors and Officers

## ■ OSCI Board Members

- ARM – Nizar Romdhane
- Cadence - Stuart Swan
- CoWare - Pat Sheridan
- Forte - Mike Meredith
- Intel – Ken Tallo
- Mentor - Mark Glasser
- NXP - Ralph von Vignau
- STMicroelectronics - Alain Clouard
- Synopsys – Markus Willems

## ■ OSCI Officers

- Chairman, Alain Clouard
  - ♦ [alain.clouard@ST.com](mailto:alain.clouard@ST.com)
- President, Mike Meredith
  - ♦ [mmeredith@ForteDS.com](mailto:mmeredith@ForteDS.com)
- Executive Director, Pat Sheridan
  - ♦ [psheridan@CoWare.com](mailto:psheridan@CoWare.com)
- Secretary, Paul Tauber  
(Legal counsel)
  - ♦ [PJT@cpdb.com](mailto:PJT@cpdb.com)
- Treasurer, Stan Krolikoski
  - ♦ [stanleyk@cadence.com](mailto:stanleyk@cadence.com)

# SystemC Language is IEEE 1666™-2005

- Approved by IEEE on Dec. 6, 2005
- Partnership between OSCI and IEEE makes LRM available without charge to users
  - <http://standards.ieee.org/getieee/1666/index.html>

## What's New at DATE 2007



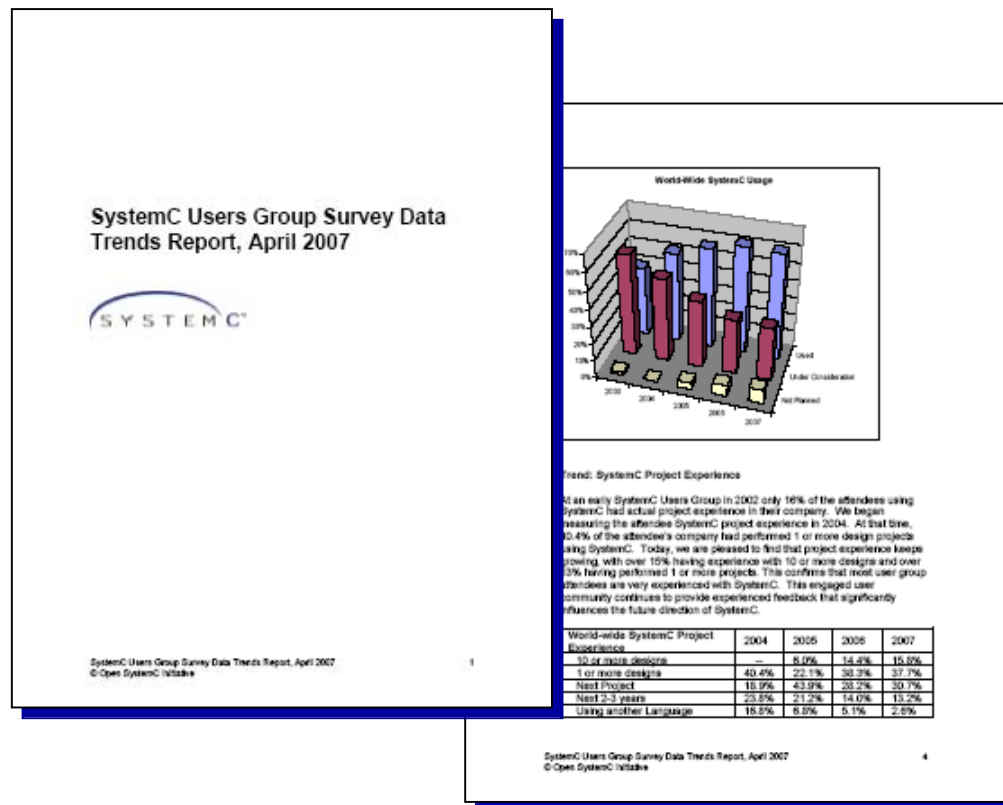
- *OSCI Open Source Proof of Concept Library v2.2 (IEEE 1666 LRM compatible)*
- *SystemC User Group Trends Report*
- *TLM WG Status Report*



# SystemC User Group Survey Trends

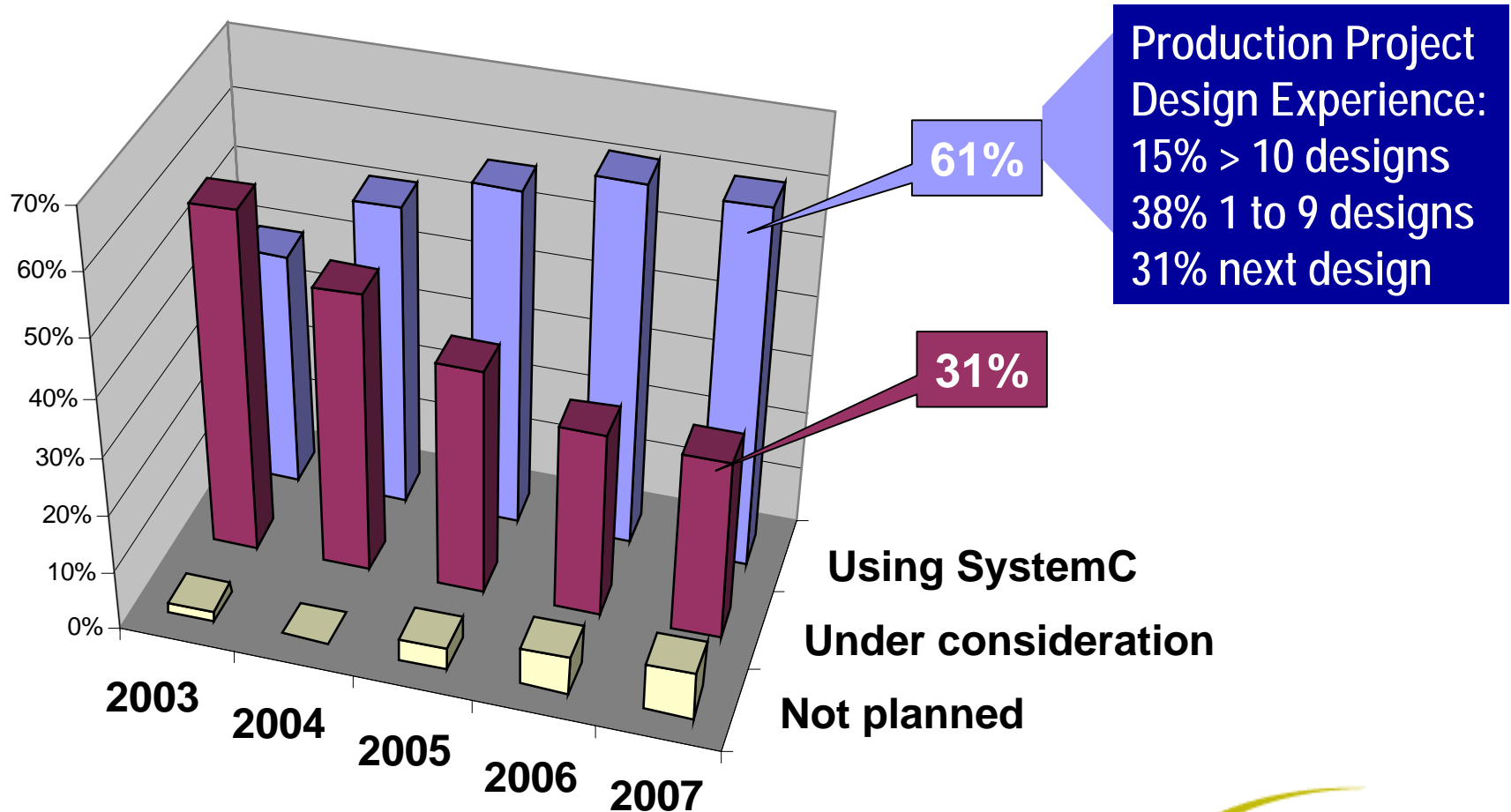
- World-wide Analysis
- Based on SystemC User Group surveys
  - Europe
  - North America
  - Japan
  - India
  - Latin America

Report available at:  
[www.systemc.org](http://www.systemc.org)



# SystemC User Group Survey Trends

## ■ World-wide SystemC Usage Growth

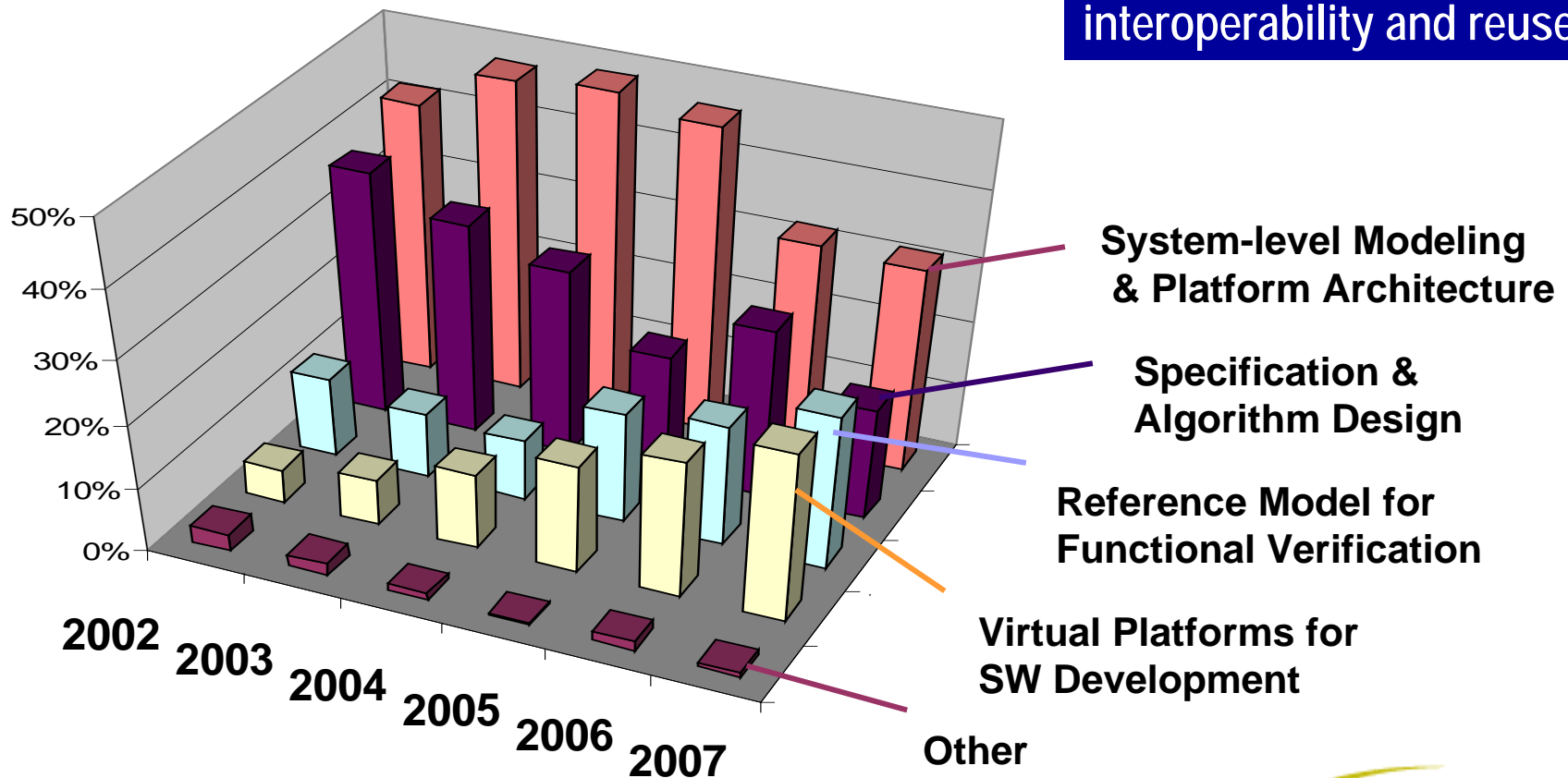




# SystemC User Group Survey Trends

## ■ World-wide SystemC Use-Models

Balanced mix is fueling demand for SystemC TLM interoperability and reuse



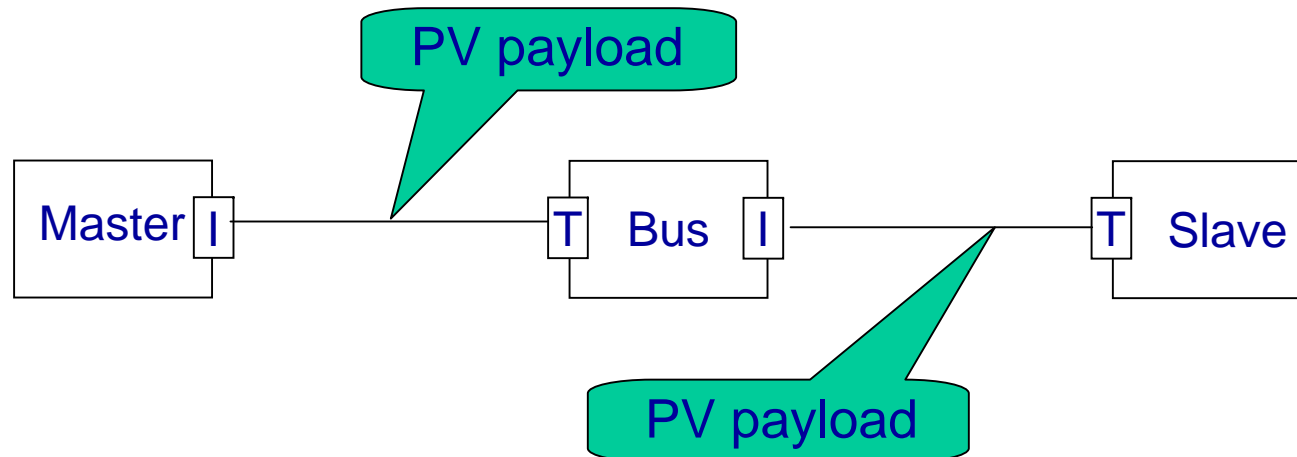


# Status

- Trevor Wieman (Intel) has been elected Chair, Stuart Swan (Cadence) the Vice-Chair
  - Thanks to Frank Ghenassia (ST), Mike Meredith (Forte) for their tenure!
- Public review of the TLM2.0 Draft Kit has been completed
  - The feedback has been very useful and is greatly appreciated!
  - New submissions have been received for evaluation & consideration
  - Significant work complete on a more formal requirements spec
- Participation in the WG is increasing
  - Bluespec, ESLX, and STARC are new participants (18 organizations total)
  - Processes have been refined to promote effective decision making given increased participation, new contributions, public input, etc.

# Untimed TLM Modeling

- Based on transport core TLM interface
- With Programmer's View (PV) payload
- All models using the PV payload and transport core interface can be connected and simulated together

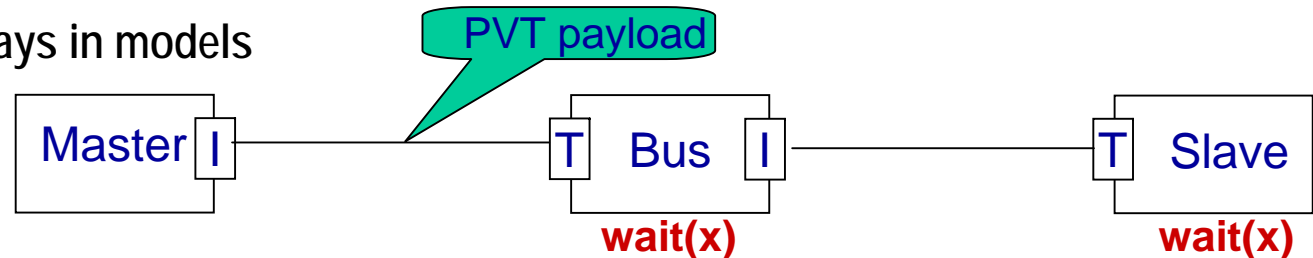


# Timed TLM Modeling

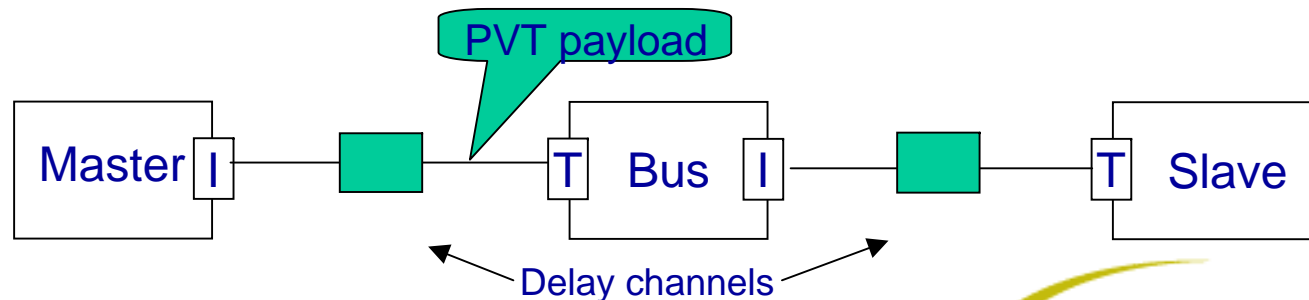
TLM 2.0 Draft

- Enable timing annotations of event-based simulations
- With PV with Timing (PVT) payload, based on put/get core TLM interfaces
- All models using the PVT payload and put/get core interfaces can be connected and simulated together
- 2 structural approaches supported:

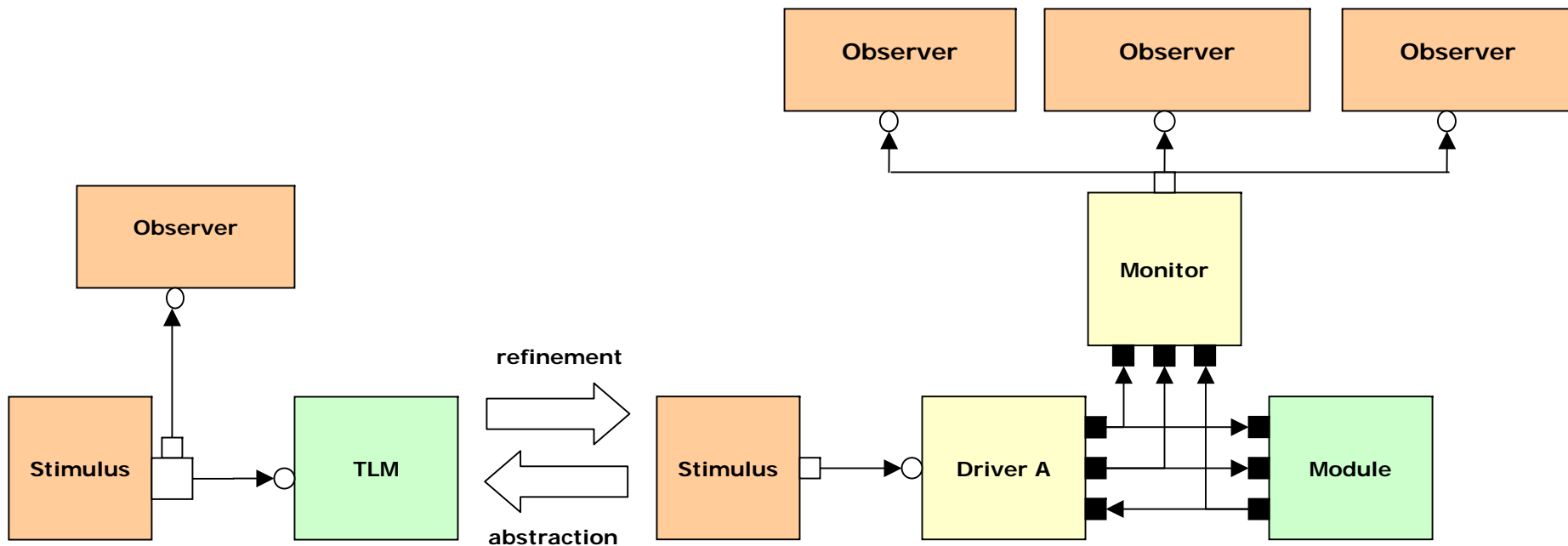
- 1) Insert delays in models



- 2) Rely on a “delay channel” between components to take timing delays into account



- Non-intrusive monitoring of transactions going through TLM ports
  - A SystemC implementation of the observer pattern
- Can connect zero, one or many observers to a single analysis port
- Non-blocking, non-negotiated interface



# Key Feedback on the TLM2.0 Draft

- Understanding the Kit and the Methodology
  - More comprehensive documentation and examples should be provided – even for draft releases
  - Relevant abstraction levels should be well defined and documented
  - The requirements specification should be provided
  - The solution's design and the rationale driving it should be better documented
- TLM Interoperability and API specifications
  - DATA\_MODE doesn't sufficiently address pass-by-value overhead
  - The payload extension mechanism seems inefficient and overly complex
  - Combining the request and response payloads into a single transaction payload might improve efficiency and simplicity
  - The request and response attributes are non-intuitive and somewhat cumbersome to use
  - A common interface for PV and PVT should be pursued
  - Interoperability with TLM 1.0 must be demonstrated and well documented

# Plans

- By DAC 2007 (only 6 weeks away) publicize the following:
  - TLM2 requirements specification
    - ◆ Allow industry review and feedback
  - TLM2 delivery schedule
    - ◆ Incremental releases of a layered solution
  - TLM2 roadmap/whitepaper
    - ◆ Will incorporate new proposals and feedback from the TLM2.0 draft
- Then, deliver on established schedule



# Summary

- Significant resources are committed to developing TLM2 standards – The WG has good momentum
- Valuable feedback received during the TLM2.0 Draft public review
- Solid requirements and plans will be finalized and published by DAC2007

