TLM WG Update

September 2007

Trevor Wieman, OSCI TLM WG Chairman

Status TLM WG

- Trevor Wieman (Intel) was elected Chair and
  Stuart Swan (Cadence) the Vice-Chair in February
  - Thanks to Frank Ghenassia (ST), Mike Meredith (Forte) for their tenure!
- Public review of the TLM 2.0 Draft Kit was completed in February
  - The feedback has been very useful and is greatly appreciated
- Participation in the WG is increasing
  - Bluespec, ESLX, and STARC have joined (18 organizations total)
- Detailed requirements spec is approved by WG for public review
  - Incorporates draft kit feedback, perspective from new participants
  - Accompanied by an overview whitepaper and supporting glossary
  - Please review and provide feedback!

TLM 2.0 Plans

- TLM 2.0 draft #2
  - Contents:
    - Untimed TLM interoperability (“PV”)
    - Preliminary approximate-timed TLM interoperability (“PVT” or “AV”)
      - Sufficiently developed to ensure no rework of the untimed TLM
    - Analysis ports
    - Examples and documentation
  - Schedule: release for public review October 31, 2007
    - OSCI has approved funding for contract development assistance
- TLM 2.0 approval
  - Scheduled for December/January
    - Includes feedback from public review plus additional examples and documentation

TLM Roadmap

- TLM 2.1 will finalize approximate-timed TLM interoperability
- OSCI will pursue IEEE TLM standardization based on TLM 2.1
- Additional releases to include
  - Configuration
  - Cycle-accurate TLM interoperability
  - Debug
  - Hardware watchpoints
  - Profiling
  - Registers/memories

AMS WG Update

September 2007

Martin Barnasconi, OSCI AMS WG Chairman

Status AMS WG

- Requirement documentation for SystemC-AMS completed
  - identified application domains and target use cases
  - (code) implementation requirements
- Interest in AMS WG is increasing
  - solid participation and contributions from semiconductor industry (4), Universities (2), EDA vendor (2), Training (1) and Research (2) institutes
  - very successful public workshop in Dresden, June 2007: *"C/C++-Based Modeling of Embedded Mixed-Signal Systems"*
- Definition of Language Reference Manual for AMS extension has started
  - additions: analogue-mixed signal synchronization, models of computation, ...
  - architecture and code review of SystemC-AMS prototype started

AMS WG applications and use cases

- Embedded mixed-signal systems
  - Heterogeneous systems including analogue, mixed-signal RF and digital IP
- Application domains
  - Wireless
  - Wired
  - Automotive
  - Imaging sensors

- Use cases
  - Virtual prototyping for SW development
  - Creating reference models for functional verification
  - Architecture exploration, definition and algorithm validation

End Product Markets	2003	2004	2005	2006	2007
Microprocessor/DSP	18.9%	16.0%	13.1%	10.5%	14.7%
Computer, Peripheral	22.9%	21.6%	18.5%	24.2%	19.0%
Wired Network	11.2%	5.2%	5.8%	4.8%	5.2%
Wireless Network	13.1%	10.4%	13.1%	7.3%	6.9%
Multimedia	25.6%	34.2%	33.8%	37.9%	31.9%
Automotive	1.9%	3.0%	3.8%	4.0%	4.3%
Others	6.4%	9.7%	11.9%	11.3%	18.1%

source: SystemC Trends report, April 2007

focus of AMS WG

AMS WG plans

- AMS Language Reference Manual - draft #1
  - Contents:
    - elaboration and simulation semantics
    - core language class definitions
    - models of computation,
    - utility class definition, API, data types and classes
  - Target schedule: release for public review in December, 2007
- AMS LRM implementation
  - Objective:
    - Develop proof of concept library with new/agreed AMS LRM language constructs
  - Target schedule: mid 2008
- AMS WG face-to-face meeting at this event! (Friday, September 21)

Thank You

September 2007

Martin Barnasconi, OSCI AMS WG Chairman

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