SystemC Evolution Day 2020

Welcome and Introduction

Ola Dahl

Organizing team chair

accellera SYSTEMS INITIATIVE™

SYSTEMC™ EVOLUTION DAY

OCT 29, 2020 | VIRTUAL WORKSHOP

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Organization Team:

- Ola Dahl, Ericsson (Chair)
- Martin Barnasconi, NXP
- Jerome Cornet, STMicroelectronics
- Christian Sauer, Cadence
- Mark Burton, GreenSocs
- Daniele Ludovici, Intel

Agenda

Time	Title	Author(s)	Affiliation(s)
8.30-9:00	Welcome and Introduction	Ola Dahl	Ericsson
9:00-10:00	A SystemC TLM 2.0 Extension for the Model Exchange of Off-Chip Communication Protocols	V. Di Valerio, S. Sinisi, S. Soffia, G. Stazi, A. Ulisse	Raytheon Technologies, Rome, Italy
10:00-11:00	Multi-core Debugger Integration in OSCI SystemC	Peter de Jager	Intel Corporation, Eindhoven, The Netherlands
11:00-11:30	Update from Accellera Working Groups	Martin Barnasconi	Accellera
11:30-12:00	Open Discussion		
13:00-15:00	Virtual Networking		
16:00-17:00	Towards a Standardized Multi Language Verification Framework – First Prototype and Demonstration	Warren Stapleton[1] Bryan Sniderman[1] Alex Chudnovsky[2] Faris Khundakjie[3] Martin Barnasconi[4]	[1]AMD, [2]Cadence, [3]Intel, [4]NXP
17:00-18:00	Temporal Assertions in SystemC	Mikhail Moiseev Leonid Azarenkov Ilya Klotchkov	Intel Corporation, Hillsboro, USA
18:00-19:00	Matchlib: A New Open-source Library to Enable Efficient Use of High Level Synthesis	Stuart Swan	Mentor, A Siemens Business
19.00-19.30	Summary and Concluding Discussion	Ola Dahl	Ericsson

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Virtual conference

- Presentations and discussions in Teams
- Virtual networking (13-15 CET) - https://dvcon-europe-virtual.org/


https://dvcon-europe-virtual.org/KjJ7MkQ/ams-room?idle_timeout=120
Share
28
15
Bas
Stephan Gerth
Oliver
Joachim Geishauser
Daniel Grosse - JKU
Jerome Cornet-ST
Sumit
LOBBY 4
Qualcomm
Chat in this room is being bridged to #e6 on Discord.
Send to room and #e6

Virtual conference

- Slides will be available, after the event, at

https://www.accellera.org/news/events/systemc-evolution-day-2020

Note taking

- Members of the organizing committee will take notes during the presentations and during the Q&A

Presentation	(main) Note taker
A SystemC TLM 2.0 Extension for the Model Exchange of Off-Chip Communication Protocols	Christian Sauer
Multi-core debugger integration in OSCI SystemC	Daniele Ludovici
Towards a Standardized Multi Language Verification Framework	Martin Barnasconi
Temporal assertions in SystemC	Mark Burton
Matchlib: A New Open-source Library to Enable Efficient Use of High Level Synthesis	Ola Dahl

Rules of engagement

- Presentations and discussion – 60 minutes in total
- Max 30 minutes presentation
- We are in a (big) Teams meeting
- If too many persons tend to speak at the same time, we need to invent an algorithm (like raising your hand when you want to speak, or type in the chat when you want to speak)
- When you comment, or ask question, for the first time – please state your name and affiliation

Today's SystemC topics

- TLM Extensions and protocols
- Multi-core debugger connection
- Multi Language Verification
- Temporal Assertions
- HLS (and SystemC for performance estimation simulation)

Active Working Groups

Working Group	Chair
Functional Safety	Alessandra Nardi, Cadence Design Systems
IP-XACT	Erwin de Kock, NXP
IP Security Assurance (IPSA)	Brent Sherman, Intel
Multi-Language (ML)	Warren Stapleton, AMD
Portable Stimulus	Faris Khundakjie, Intel
SystemC	
SystemC Analog/Mixed-Signal (AMS)	Martin Barnasconi, NXP
SystemC Configuration, Control and Inspection (CCI)	Ola Dahl, Ericsson
SystemC Language	Laurent Maillet-Contoz, ST Microelectronics
SystemC Datatypes	Frederic Doucet, Qualcomm
SystemC Synthesis	Andres Takach, Mentor, a Siemens Business
SystemC Transaction-level Modeling (TLM)	Bart Vanthournout, Synopsys
SystemC Verification	Stephan Gerth, Bosch-Sensortec
SystemVerilog-AMS (Analog Mixed-Signal)	Peter Grove, Dialog Semiconductor
Universal Verification Methodology (UVM)	Mark Strickland, Marvell
UVM-AMS (Analog Mixed-Signal extensions for Universal Verification Methodology)	Patrick Lynch, Xilinx, Inc.

Discussion in virtual rooms

- Debugger connection
  - Lobby 1
- Networking (TLM)
  - Lobby 2

Concluding remarks

- Thanks for attending this virtual event!
- Big thanks to presenters and all active in discussions and Q&A
- Thanks to Mark and DVCon Europe org team for the virtual environment
- More than 200 registered
- Approx 70 in the morning session
- Approx 50 in the afternoon/evening session

Concluding remarks – per presentation

Presentation	Comments
A SystemC TLM 2.0 Extension for the Model Exchange of Off-Chip Communication Protocols	Lively and creative discussion, connections to CPS work, code not yet available, discussed comparisons with earlier work on serial protocols – today's proposal is more of between-chips communication – follow up in CPS WG
Multi-core debugger integration in OSCI SystemC	Gdb protcol vs others, like TCF, multi-core capabilities, connections to register inspection, synchronization of simulators – follow up in CCI WG
Towards a Standardized Multi Language Verification Framework	Request for TLM 2 communication, UVM-ML vs other environments (UVM connect was mentioned), Test synchronization – PSS was mentioned, Additional help in the continued work is appreciated (ref. Warren Stapleton)
Temporal assertions in SystemC	HLS, proposal for things to add to SystemC standard and SystemC synthesis standard, assertions could also be of interest in the verification working group, Access to kernel internals (concrete proposal, Github ticket will be submitted)
Matchlib: A New Open-source Library to Enable Efficient Use of High Level Synthesis	Proposals for addendums to SystemC synthesis, code contributed (self-contained kit) hosted on the Accellera forums (Apache 2), updated slides to be submitted, Github ticket mentioned above is connected, AXI building blocks may be of interest for CPS WG

What happens next?

- Presentations will be stored on Accellera SystemC Evolution Day page
- SystemC Evo Day org team will go through notes
- If you have notes or comments, please send them in mail to ola.dahl@ericsson.com
- If you are interested in joining Accellera, please contact e.g. Ola or Martin Barnasconi
- There is an interest for re-occurring events, e.g. Monthly SystemC Evolution meetings – ideas, topic proposals, support, and feedback are welcome!