Imperas Newsletter – August 2020

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# Revolutionizing Embedded Software Development



**E**mail









#### **Events**

# Imperas at Arm DevSummit October 6 – 8, 2020

Join Imperas as it presents during the virtual event with a live Q&A.



'Virtual Prototypes for Low Power, Mixed Level Safety Critical Systems' presented by Duncan Graham

When: Tuesday October 6th 9:30am PDT / 5:30pm BST

'Extending Cortex-M33 with Custom Instructions for Security Algorithms' presented by Simon Davidmann

When: Wednesday October 7th

9:30am PDT / 5:30pm BST





September 3, 2020



# metrics imperas

## Presentations from Imperas and its partners:

'Optimizing RISC-V custom instructions with software driven analysis and profiling'

Speaker: Simon Davidmann, President & CEO, Imperas

When: 6:05am PDT / 2:05pm BST

'Verifying all the flexibility of RISC-V within SoC DV test plans'

Speaker: Simon Davidmann, President & CEO, Imperas

When: 10:20am PDT / 6:20pm BST

'CORE-V Verification Test Bench – Commercial Quality Verification of Open-Source RISC-V Core'

Speakers: Rick O'Connor at OpenHW Group, Aimee Sutton at

Metrics and Simon Davidmann at Imperas Software

When: 1:20pm PDT / 9:20pm BST

## 'Vector Compliance Testing for RISC-V'

Speakers: Hideki Sugimoto, CTO, NSITEXE Inc. and Koji Adachi – CPU Architect, NSITEXE Inc.

NSI-TEXE

When: 1:45am PDT / 9:45am BST

Register



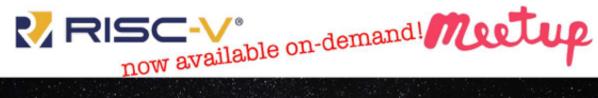
# Imperas at Korea RISC-V Summit 21 September 2020

Korea Broadcasting Center 233, Mokdong-ro, Yangcheon-gu, Seoul

Imperas certified design partner Coontec is participating with a presentation and panel discussion on the latest developments around RISC-V in Korea

Speaker: Joon Pang – CEO of Coontec Co-Author: Larry Lapides – Imperas Software

Register



July 22nd 2020 6PM Israel Time

4<sup>th</sup> RISC-V Israel Virtual Meetup





Western Digital.

RISC-V Israel Virtual Meetup Recording available

### The Meetup with Imperas was co-hosted with WD and Syntacore.

The <u>video</u> incorporates the following presentations followed by a Q&A session:

RISC-V IP solutions - Ekaterina Berezina, Syntacore RISC-V DV: The Most Important Task - Larry Lapides, Imperas Overview to CHIPS Alliance & RISC-V SweRV Cores - Zvonimir Bandic, WD

Download the slides which accompany the Imperas presentation here.

Watch the video

# WEBINARS: Imperas at Virtual DAC: Design Automation Conference



FROM CHIPS TO SYSTEMS – LEARN TODAY, CREATE TOMORROW

## Watch the Virtual DAC presentations

'What's next for RISC-V?

Vectors, Verification, and Value-added Extensions'
Recording available (until September 1) from this <u>link</u>.

'Verification of RISC-V Open ISA processors: compliance is just the starting point; reference model and coverage metrics are key."

Recording available (until September 1) from this <u>link</u>.

And a series of talks (Imperas, OpenHW Group and Valtrix Technologies) on 'Verification of RISC-V Open ISA processors: New Freedoms in Design Require New and Improved Verification Methodologies'.

All recordings available (until September 1) from this link.

# WEBINAR AVAILABLE ON-DEMAND: Optimizing embedded RISC-V hardware / software development

From virtual models to in-life silicon instrumentation

Join Imperas, Andes and UltraSoC on the key hardware and software prototyping phase including demos with example platforms to test multicore processing elements, the building blocks of AI Inferencing or ML designs.



Watch the webinar

**Coming soon** 

**Episode #3 on RISC-V custom instructions** 

#### Latest news

Imperas RISC-V Reference Models chosen by OpenHW

#### Coverage Driven Verification of OpenHW CORE-V Processors with Imperas RISC-V Golden Reference Model SystemVerilog SystemVerilog TestBench DUT memory Control CORE-V" GCC/ DUT: CV32/64 RISC-V RTL Step LLVM Compare Random Ref results.log **Imperas** Instruction memory RISCV.elf Generator **UVM RISC-V Reference Model Functional Coverage** Image source: © Imperas Software Ltd

- SystemVerilog UVM Step and Compare flow using Imperas Reference Model
- Imperas OVP model is encapsulated into SystemVerilog testbench module
- Control block steps both CPUs, extracting data and comparing results

OpenHW Verification Task Group has selected Imperas RISC-V Reference Models for SystemVerilog UVM step-and-compare verification of open source CORE-V processor IP cores.

Jingliang (Leo) Wang, Principal Engineer/Lead CPU Design Verification at Futurewei Technologies, Inc. and also Co-chair of the OpenHW Group Verification Task Group, commented: "The Imperas reference model incapsulated within the testbenches is a key component to enable the step-and-compare interactive checking approach for efficient error resolution."

Read news in full

#### **Articles**



**Extending SoC Design Verification Methods** for RISC-V Processor

By Simon Davidmann, Lee Moore, Larry Lapides and Kevin McDermott, Imperas Software, Ltd.

As SoC developers adopt RISC-V and the design freedoms that an Open

View the article

# **Electronics**Weekly.com

## The RISC-V rundown from DAC 2020

It has been an unusual DAC this year, as the show went virtual. There was a lot of activity around RISC-V. By Caroline Hayes

View the article

### **Release information**

#### **OVP and riscvOVPsim RELEASE NEWS**

The latest Imperas and OVP release became available in June 2020, reference 20200630.0. See more details at: <a href="http://OVPworld.org/dlp">http://OVPworld.org/dlp</a>



For an introduction to RISC-V the free single core envelope model, called riscvOVPsim, is an excellent starting point, which can be configured for all the ratified ISA features and includes support of the draft specifications for Bit Manipulation and Vectors.

The latest version was uploaded on July 22nd 2020, Version: 20200722.0 and is available at: <a href="https://github.com/riscv/riscv-ovpsim">https://github.com/riscv/riscv-ovpsim</a>

riscvOVPsim, learn more



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