



Xilinx SDSoC for acceleration of real-time Video Processing on EMC² Development Platform, using a Xilinx Zynq SoC 'System-on-Modules'

Team:

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Descriptions:

We will present status of the high level design in [Xilinx's SDSoC 2015.4](#) tool chain (from C to accelerated FPGA HW) when targeting a PC/104 industrial single-board computer, using a Zynq [Z7015 SoC 'System-on-Module'](#), as found on the [EMC2 Development Platform](#).

We will describe results achieved for the real-time detection of moving edges in the live colour HD Video data stream with resolution 1920x1080p60. The accelerated motion-detection frame-rate is 36 frames per second in case of 'bare metal' and 60 frames per second in case of Linux. The software is running 'bare metal' without the use of the integrated NEON floating-point accelerator. The ARM CPU is used for fast development and debug of algorithms before compilation of accelerators to FPGA hardware fabric by the Xilinx tool-chain.

The presentation is during the EMC2 Workshop on 20th January 2016 system at the [HiPEAC Conference](#) in Prague



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