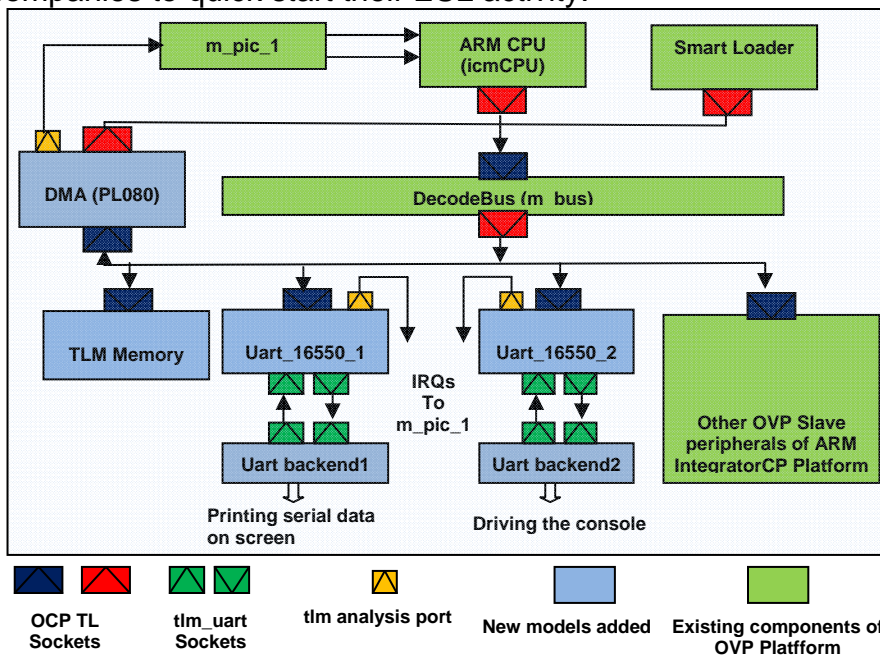




Overview

The OCP Virtual platform consists of transaction level models of UART, DMA & Memory, integrated into the OVP-based ArmIntegratorCP Platform. The models are created by CircuitSutra using OCP-IP TLM Modeling Kit and GreenSocs infrastructure. The platform is able to boot busybox Linux, and the SystemC models are accessible from the device drivers and the applications running on Linux. The virtual platform demonstrates the OCP Modeling Kit based methodology for IP and enables SoC companies to quick start their ESL activity.



Highlights

The virtual platform is able to boot busybox Linux in about 5 seconds and is suitable for the purpose of embedded software development. It can be utilized by OCP-IP users to quick start their ESL activity.

Capabilities

The virtual platform is able to boot the operating system and can be used for the purpose of embedded software development. SystemC models of the peripherals connect with the system bus using the OCP Slave sockets. The UART model also has a pair of TLM sockets templates with the 'tlm_uart_protocol_types'; these sockets implement the tlm_uart protocol defined by extending OSCI TLM2.0. Abstraction level supported: The peripheral models support TL4 and TL3 abstraction levels defined in the OCP Modeling Kit. The virtual platform uses the peripheral models at TL4 abstraction level. Users can plug in the peripheral models at other abstraction levels by implementing the adaptors. Linux Kernel is updated to include the device drivers of the DMA & UART for ARM-based architecture. Simple applications are developed to utilize the functionality of DMA for memory-to-memory transfer.

Advantages

The platform demonstrates the benefits of using the OCP-IP Modeling Kit for developing software models of IP blocks which can then be easily connected to create the virtual platform. This platform can be employed by IP vendors to try out the models of their IP blocks and run the software stack / device driver. Users can simply create the TLM model of their IP employing the OCP-IP Modeling Kit, plug in their model to this virtual platform, and access it through the software, running on top of the virtual platform. System on Chip (SoC) companies can use this platform as the base to create a virtual platform of their own SoC.

Member Benefits

OCP-IP members receive free training and support, software tools, enabling them to focus on the challenges of SoC design. Leveraging OCP-IP's infrastructure eliminates the need to internally manage, document, train and evolve a proprietary standard and acquire accompanying support tools, freeing up critical resources for the real design work ensuring enormous cost savings. The OCP Virtual Platform Demo is available to members of OCP-IP and can be downloaded at www.ocpip.org. The package is similarly available to non-members by simply providing basic click-through contact information at www.ocpip.org.

About OCP-IP®

Formed in 2001, OCP-IP is a non-profit corporation promoting, supporting and delivering the only openly licensed, core-centric protocol comprehensively fulfilling integration requirements of heterogeneous multicore systems. The Open Core Protocol (OCP) facilitates IP core reusability and reduces design time, risk, and manufacturing costs for all SoC and electronic designs by providing a comprehensive supporting infrastructure. For additional background and membership information, visit www.OCPIP.org.

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