Development of new System IP Models and OCP-IP Sockets

Activity:

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Abstract:

TU Braunschweig developed in collaboration with ESTEC, the SOCROCKET framework. This framework is based on the SystemC and Transaction Level Modelling (TLM) standards. SOCROCKET implements TLM sockets exposing the AMBA AHB/APB buses and integrates these with a LEON3 processor model.

Terma's contribution to this system was the extension of the IRQ controller to add Asymmetric Multi-Processor (AMP) support and the development of additional models to help with the validation of the overall NGMP/LEON4 architecture. The additional components included models for the following NGMP compontents:

- DDR2 memory controller
- L2 cache
- GR-IOMMU
- GRSPW2

The components where developed together with a demonstrator, replicating a LEON4 like architecture and software running on the processor model.