A compositional modelling framework for exploring MPSoC systems

This paper presents a novel compositional framework for system level performance estimation and exploration of Multi-Processor System On Chip (MPSoC) based systems. The main contributions are the definition of a compositional model which allows quantitative performance estimation to be carried out throughout all design phases ranging from early functional specification to actual cycle accurate and bit true descriptions of the system. This is possible, because a seamless refinement of models is supported by allowing the existence of models described at multiple levels of abstraction to co-exist and communicate. In order to illustrate the use of the framework, a mobile digital audio processing platform, supplied by the company Bang & Olufsen ICEpower a/s, is considered.

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