

# Application Specific Embedded Processors for Next Generation Communication Systems

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## Abstract

Next generation communication systems, like 3G cell phones, car vision systems and network processors, will comprise a large variety of tasks to be executed concurrently. In order to meet the system requirements regarding computation performance, energy consumption, and chip area, the systems will be built upon multi-processor architectures including general-purpose as well as application-specific programmable processors. The latter have to be tailored to their purpose through optimized instruction sets and micro-architectures. To develop such heterogeneous parallel HW/SW systems in a short time, an architecture development system is required that allows for a rapid profiling of applications on a virtual prototype of the architecture. It must support the specification of application-specific processors and the generation of corresponding compilers and operating systems, as well.

## Biography

Prof. Dr. rer. nat. Ulrich Ramacher is director of the Systems Technology Department, at Infineon's Corporate Research in Munich. He studied Mathematics and Physics at the University Tuebingen and received his doctorate degree 1979 in theoretical physics. He was then an assistant professor of physics at the Department of Physics, King Faisal University, in Dhahran, Saudi Arabia. From 1985 to 1993 he was at the Microelectronics Department of Siemens' Corporate R&D. Until 1996 he was chair of the Electronic Devices and Integrated Systems department at the Dresden University of Technology, before he built up the VLSI System Integration Department of Siemens' Corporate Technology. In 1999, his department joined Infineon Technologies.