**Review of Performance Analysis Methods for Real-Time Embedded Systems Design**

Abstract

Embedded systems interact with their physical environment in which they are connected through sensors and actuators. Consequently they must execute at a pace determined by their environment. Performance analysis of real-time embedded system plays an important role in the design process of complex embedded systems for analyzing essential performance characteristics of system design at an early phase. This gives the choice of important design decisions before much time and resources are invested in detailed implementation. The classification criterion for performance analysis methods is given by the set of analyzable performance metrics like timing aspects, memory requirement, resource utilization or power consumption. This paper reviews and compares various performance analysis methods. It also identifies the limitations of these methods. There are many performance analysis methods; notable among them are simulation and formal analysis methods, real-time calculus, holistic scheduling analysis, compositional method, timed automata based performance analysis and stochastic analysis method.