A Formal Framework for Specifying Dynamic Reconfiguration Of Adaptive Systems

We expect modern systems have dynamic reconfigurations to cope with failure or adapt themselves with environment and clients. Software adaptation techniques try to solve the problem of compatible interfaces in components with reconfiguration capabilities and an abstract specification of systems called adaptation contract. In our approach, at first, we represent whole system by a mathematical model and then we build adaptor based on system parts and adaptation contract. After that, we are going to generate net for adaptors by using synchronization vectors to synchronize whole system.

Keywords: Reconfiguration, Adaptive systems, formal method

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