

# Current Issues and Challenges in Embedded Software Development

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## Abstract

Information appliances are rapidly emerging in the consumer electronics market as a result of recent convergence of telecommunication, consumer electronics, and information technologies. As a result of that, information appliances often take the form of the culmination of networked distributed embedded systems. This poses a great deal of new design challenges to embedded systems developers, which is often referred to as an embedded software crisis.

This talk will go over current technical issues that contribute to the embedded software crisis and present our solutions to these problems that we have developed during the development of various commercial products such as digital TVs, web screen phones, wireless handsets, home network gateways, and CDMA terminals. We will discuss in detail about proliferation of the types of digital consumer devices, diversity in hardware platforms, component software technologies, and embedded software quality assurance and reliability. We will also touch upon other essential issues for embedded systems development such as fault isolation, power management, and optimal system design based upon hardware/software partitioning.