



Embedded System Engineering Services

Architecture of an SSD controller software

Our customer, a specialist in ASIC IP modules for flash management developed an IP module for SSD management. Most of the standard is managed directly by the IP but certain features require software control. We defined the architecture of this software taking into account strong constraints:

- portability (the CPU choice is left to the designer of the SSD) and
- performance (the software must be able to use all of the available bandwidth on both the communication link with the host and the flash).

We have provided a comprehensive architecture definition that can serve as specification for software realization.

Simulation of real-time behavior of an audio platform

Our customer wanted to develop a new platform for processing large amounts of audio data with strict real-time constraints (of the order of a millisecond) and very large flash memory bandwidth needs.

We modeled the data flows involved by the sequence of computations in order to assess the feasibility of an implementation on an i.MX6 quad-core processor (Cortex/A9) under Linux or an RTOS; we created a simulator assessing the time and indeterminacy inherent to the OS. We then run it on the target processor to measure these delays and analyze the results.