

Virtualization of an Infotainment System

Development of a **virtualization solution** for infotainment systems based on KVM on a multicore ARM platform

Customer requirements

The aim of the project was to create a system environment that allows the operation of several operating systems on a multicore ARM platform. In addition to Linux the guest operating systems Android and QNX should also be able to operate in order to realize the infotainment solution that was wanted.

Another requirement was that special hardware of the host system (3D-GPU, 2D-GPU, decoder, audio amongst others) should be made available to and made useable for the guests.



comlet solution

As a solution comlet realized a system based on a dualcore OMAP 5 evaluation board. As a first step an already existing Linux KVM implementation was ported onto the chosen ARM platform and it was then ensured that the virtualization extension of the processor was being used. With the aid of QEMU guest configurations for Android, Linux and QNX were created.

The various guests were modified in order to be able to implement them in a KVM/QEMU environment. The transfer of a number of different hardware components to the guests was also implemented and realized.

Technology used

Linux, KVM, QEMU, GIT, ARM Cortex-A15
MPCore hardware virtualization

