

# Virtualization Impact on Embedded System Performance

**Name** Alexander Smirnov

**Abstract text** Today, virtualization has become a widely discussed topic, also in embedded systems area. The possibility to run unmodified guest operating systems, isolated from each other, on a single system allows satisfying contradictory requirements in the respectively specialized guest. This makes virtualization less complicated and less expensive compared to traditional approaches [like implementing all features under the single operating system [or customizing guests to run together without isolation]].

One important aspect to consider before investing in the technology is the performance of virtualized systems. Can virtualized operating systems and user applications still comply with throughput and latency requirements?

In this presentation, Alexander compares the performance of virtualized and native systems using Linux and FreeRTOS as an example, based on criteria such as boot time, network throughput, interrupt latency, virtual device overhead, etc.