Japter – Octocopter Platform Based on Siemens Jailhouse

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What is demonstrated

• Real-world use case of the Linux-based partitioning hypervisor Jailhouse
• Consolidation of safety, real-time critical and uncritical workloads on a single SoC

Key features:

• Safe separation of critical and uncritical hardware
• Low hypervisor influence (Goal: even no hypervisor influence)
• Partition CPUs of a SoC
  • Two CPUs for uncritical tasks: OpenCV, live streaming, telemetry submission, WiFi, ...
  • Two CPUs for RT-critical tasks: Ardupilot flight control
• Hardware-assisted separation of systems
• Virtual ethernet device between critical and uncritical cell

Source code or detail technical information availability
https://github.com/siemens/jailhouse

Hardware Information

Tegra K1 SoC, 4xCortex-A15 (ARMv7)