Software Implementation vs. Hardware Implementation: The Avionic Test System Case-Study

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Context:
• Growing computation rates of avionic test systems and avionic heavy Models.
• Dedicated test systems on each embedded part of the helicopter.
• Development complexity of hybrid CPU/FPGA architectures.

Objectives:
• Using hybrid architectures (CPU/FPGA) to design innovative avionic test systems.
• Using FPGA reconfigurability capabilities to design new generic and adaptive test systems.
• Defining a runtime supervisor for reconfigurable Test & Simulation architectures.
• Finding the best trade-off between different software and hardware implementation.