

Microprocessor to Microcontroller: When, Which and Why?

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The European Space industry has over many years successfully applied LEON microprocessors in its avionic and payload computers. However such microprocessor based solutions may be over-dimensioned for some simple applications such as memory & compression control, local measurement & control electronics, mechanism control, antenna control, power control, and small ISS payloads. This presentation will discuss the needs for such a microcontroller, as seen by Astrium: whether as an IP block for incorporation in an FPGA/ASIC and/or as a stand-alone component. Astrium experience with microcontrollers from the RISC 8051 family, 8-bit ATMEGA, PIC and ARM Cortex will be included. Finally a short trade-off indicating the Astrium preferred solution will be presented.