Consulting and Expertise on Micro-Controllers

Starting new projects on a LPC1788 MCU using the LPCXpresso IDE and the LPCOpen stack

Our customer was starting new projects based on the LPC1788 MCU (Cortex-M3). The open source LPCOpen stack from the LPCWare website would be used. It includes the MCU drivers, the FreeRTOS RTOS, the TCP/IP LwIP stack, etc. Beyond a simple training on the hardware part, Ac6 helped the customer to get started with this software, focusing on what he was needing, creating a project integrating the different drivers and stacks through configurable libraries. The IDE used was the LPCXpresso IDE. Tips to debug the FreeRTOS projects were also implemented and Ac6 supported the customer afterwards for the LwIP application development.

Getting started on an STM32 MCU project at a very low level

Our customer was starting a project based on a STM32 MCU. Because the application was for the medical field and so very critical, the client has to develop it at a very low level. The C++ language was used, but the STM32 drivers have to be re-developed from scratch. Ac6 provided a very precise hardware description (at the register level) and helped the customer to get started with driver development. The common pitfalls inherent to this MCU (Cortex-M3 based) were also detailed.

Designing a Microblaze-based platform and programming it

Our customer was starting a new project based on a Xilinx Spartan-6 FPGA. The EDK toolset (with the XPS and SDK tools) which is a part of the ISE IDE was used. The customer needed to create its specific hardware platform based on a Microblaze core with its own peripheral IPs and to develop the software for it. Ac6 supported the customer to develop (using the VHDL language) and to connect these peripherals to the core. We also helped him to get started with driver development.