



ARM Cortex-A53 MPCore Software Development

Summary:

This training course covers the issues involved in developing software for platforms powered by ARMv8 processors.

Prerequisites:

- Knowledge of the ARMv7-A Architecture
- Familiarity embedded programming in C and assembler
- Experience of embedded system development is an advantage

Audience:

This course is aimed at software developers and system architects developing for systems powered by ARMv8 processors. It is relevant for operating system development, device drivers, low-level coding and for application software. The course assumes prior knowledge of the ARMv7-A architecture.

Length:

3+ days

Modules:

Optional AArch32 Fundamentals:

For customers who require it, we are able to provide an overview of the ARMv7-A Architecture (AArch32) as part of the course. This can be substituted for other modules in the course agenda.

Day 1-3

- Introduction to ARMv8-A
- Software Engineer Guide to the Cortex-A53
- AArch64 A64 ISA Overview
- A64 ISA Workbook
- AArch64 Exception Model
- ARMv8 Exception Model Workbook
- ARMv8-A Memory Management
- ARMv8-A Memory Model
- Caches and Branch Prediction
- MMU and Cache Initialization Workbook
- Barriers
- Synchronization
- Cache Coherency
- OS Support
- Booting
- Power Management for Cortex-A
- Virtualization
- Security
- GIC Programming
- Debug (Optional)