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ARM Architecture :

- * instruction set
- * register set.
- * exception model.
- * memory model.
- * Debug, trace & profiling.

RISC :

Reduce Instruction Set Computer.

Simple Instructions

Simple Addressing mode

Load Store Architecture

Big Endian or (more commonly) Little Endian.

Micro architecture .

- * The build and design of a processor is referred to as micro architecture.
- * microarchitecture includes things like
 - pipeline length and layout.
 - Number and sizes of caches
 - Cycle counts for individual instructions.
 - Which optional features are implemented.

IP Core

Based on this ARM specification, ARM develops IP Cores which implement the specification.

IP Core = Implementation in VHDL or Verilog of a block of hardware logic.

Profiles

* A Application profile:

- features powerful processors found in high-end products like smartphones, tablets, or notebooks.
- Cortex-A8 and Cortex-M.

* R Real Time profile:

- processors can be found for example in control units for automotive systems or hard disk drive controllers.

* M - Microcontroller profile:

- processors are smaller and used in numerous embedded systems.