[FreeRTOS] Enable Context-ID trace on Arm

2026-08-11 - Comments (0) - OS-aware debugging

Note

The information below is applicable for ARMv7, ARMv8, ARMv9 cores in 32bit mode, e.g. CortexA32/R52/A7.

A function `T32_Magic_Update` is used to write the `pxCurrectTCB` value to the **CONTEXTIDR** (C15:0x10d).

The C-MACRO trace`TASK_SWITCHED_IN` is used to write the `pxCurrentTCB` pointer (address of the current task structure) to the **CONTEXTIDR** (C15:0x10d) register.

FreeRTOSConfig.h:

```
#define traceTASK_SWITCHED_IN() \
{ \
  __asm volatile ("MCR  P15, 0x0,%0,C13,C0,0x1" : :"r" (pxCurrentTCB)); \
}
```

Setting within TRACE32:

```
ETM.ContextID 32
ETM.TraceON
ETM.ON
```