FreeRTOS Menu causes state "running (core power down)" Open Discussion

- TM Tanzou Mechmet
- **Forum name:** #Debugging

Hello,

I'm using a MCU with 1x Cortex M0+ and 2x Cortex M7. I use the M0+ and one of the M7 cores. On both cores, M0+ and M7, FreeRTOS is running. My MCU contains an IPC peripheral unit e.g. for communication between M0+ and M7.
In my application I use a touch controller which is connected via I2C on the M7 core. For every touch event an interrupt is generated and the I2C data is queued into a FreeRTOS queue. A separate task is working on the queue, prepares the data and transmits them via IPC to the M0+ core which forwards the data on CAN.
My application is working fine without any issues in both cases, with debugger connected and without debugger.

When I load the T32 FreeRTOS add-on with

TASK.CONFIG "C:\T32\demo\arm\kernel\freertos\freertos.t32"
MENU.ReProgram "C:\T32\demo\arm\kernel\freertos\freertos.men"

and display the FreeRTOS tasks, everything works fine too. But when I generate touch events, then a failure case occurs and the state of the M7 core is "running (core power down)". The M0+ core is running normally.
In state "running (core power down)" I cannot see the memory or peripherals of the M7 core. The fault handlers are enabled in the M7 core. I set up breakpoint in the handlers but they obviously were not called.

I think the FreeRTOS add-on in T32 affects the time behavior of the core. Can you tell me what can cause my issue, which occurs only with the FreeRTOS add-on?

Thanks!

Comments (2)

Khaled Jmal
2 years ago

Hello Tanzou, the awareness simply does memory accesses to retrieve different information based on the debug symbols. You can see these memory accesses in the SYStem.LOG.List window. Close all TRACE32 windows, open SYStem.LOG.List , press "Clear" then open e.g. TASK.List. If loading the awareness causes the described behavior, then the problem is related to one of these memory accesses. If you need additional help, it is better to submit a ticket. Regards, Khaled

TM **Tanzou Mechmet**

2 years ago

Hello Khaled, thanks for responding. In SYStem.LOG.List I can see an invalid memory access. I now submitted a ticket to take further steps for analysing the issue. Thanks!