

RENESAS TECHNICAL UPDATE

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Product Category	System LSI		Document No.	TN-RIN-A013A/E	Rev.	1.00
Title	Hardware Real Time OS issue		Information Category	Technical Notification		
Applicable Product	Please refer to [1. Applicable Product] described below.	Lot No.	Reference Document	R-IN32M4-CL2 Programming Manual (OS edition) R18UZ0040EJ0100		
		All lot				

This document describes information about issues of Hardware Real Time OS. Please use the Hardware Real Time OS considering those issues.

If you do not use Hardware Real Time OS feature, this notice could be ignored.

1. Applicable Product

Product Type	Model Marking	Product Code
R-IN32M4-CL2	R9J03G019GBG	R9J03G019GBG

The OS library (V2.0.2) is included in the following sample software.

[R-IN32M4-CL2 sample software download site]

<https://www.renesas.com/products/factory-automation/r-in32m4.html>

→ download

[Sample software related to this issues]

Target	Issue Date	Data
Driver/Middleware Set for R-IN32M4-CL2 TESSERA Board	September 6, 2016	r-in32m4_samplesoft.zip
Driver/Middleware Set for R-IN32M4-CL2 IAR Board	September 6, 2016	r-in32m4-iar_samplesoft.zip

2. Issue

2.1 Illegal reordering of task waiting for resources

2.1.1 Content

Target task of chg_pri() moves to the last of queue waiting for resources with TA_TFIFO attribution.

2.1.2 Condition

chg_pri() service call is called for the task waiting for resources with TA_TFIFO attribution such as Event flag, Mailbox, Semaphore and Mutex.

2.1.3 Permanent measures

No workaround. This is new limitation of this product. This limitation is added to Programing Manual (OS edition).

Limitation

When chg_pri() service call is called for the task waiting for resources with TA_TFIFO attribution, order of the task moves to the last of the queue. In case of uITRON(ver4.03) specification, order does not change.

2.2 Deadlock during prologue of interrupt handler

2.2.1 Content

Deadlock occurs during calling interrupt handler (inside OS library)

2.2.2 Condition

In case all the following conditions are met,

- 1) chg_pri() or ter_tsk() service call is called during the period from calling dis_dsp() until calling ena_dsp()
- 2) Interrupt from the peripheral of which interrupt number is smaller than one of HW-RTOS is used.

# of HW-RTOS interrupt	Peripheral of which interrupt number is smaller than one of HW-RTOS
92	Timer/UART/CSI/IIC/CAN/DMAC/TAUD/Inter buffer DMA/ Ether PHY/Ether MAC/Ether Switch/Host IF/Port

2.2.3 Permanent measures

Renesas updates the OS Library.

3. Update Plan

Renesas will update Programing Manual (OS edition) and OS library and releases the update in Oct, 2016 on Renesas Web site.

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➔ download

[Sample software related to this issues]

Target	Issue Date	Data
Driver/Middleware Set for R-IN32M4-CL2 TESSERA Board	October, 2016	r-in32m4_samplesoft.zip
Driver/Middleware Set for R-IN32M4-CL2 IAR Board	October, 2016	r-in32m4-iar_samplesoft.zip

[OS library version]

V2.0.3