RENESAS Tool News

RENESAS TOOL NEWS on July 1, 2011: 110701/tn1

Notes on Using a Real-Time OS--RI850V4 V1.00.00--for the V850 of MCUs

When you use real-time OS RI850V4 V1.00.00, take note of the following problems:

- With cyclic handlers in operational state not cyclically operating (No. 1)
- With an intended memory block not taken out of the variable-sized memory pool (No. 2)

Here, the number at the end of each item is a consecutive number of the problems in RI850V4.

1. Problem with Cyclic Handlers in Operational State Not Cyclically Operating (No. 1)

1.1 Descriptions

If the sta_cyc service call is issued from any interrupt handlers to the cyclic handler whose attribute is not TA_PHS, another cyclic handler to which the sta_cyc service call has not been issued may not operate cyclically.

If you refer to information about any cyclic handler that cannot operate cyclically, TCS_STA is displayed which indicates the cyclic handler is in the operational state.

To refer to information about cyclic handlers, use the ref_cyc service call, the Realtime OS Resource Information panel of CubeSuite+ (an integrated development environment), or the RD850V4 task debugger.

1.2 Conditions

This problem arises if the following conditions are both satisfied:

(1) While the cyclic handler "cychdrX" whose attribute is not TA_PHS
is in the operational state, a base clock timer interrupt request
of the OS is acknowledged.

(2) While the interrupt request in (1) is handled, interrupt handler
"inthdrA" issues the sta_cyc service call to "cychdrX" in (1)

Note, however, that even if the above conditions are both satisfied, this problem may not arise depending on when interrupts are requested or how data is processed within the OS.

1.3 Workaround

Do not issue the sta_cyc service call from an interrupt handler to a cyclic handler whose attribute is not TA_PHS.

1.4 Schedule of Fixing the Problem

We plan to fix this problem in the next version of the product.

2. Problem with an Intended Memory Block Not Taken out of the Variable-Sized Memory Pool (No. 2)

2.1 Descriptions

The get_mpl or tget_mpl service call may not return the intended address of the memory blocks taken out of the variable-sized memory pool.

2.2 Conditions

This problem arises if the following conditions are both satisfied:

(1) Two or more tasks issue get_mpl or tget_mpl service calls to a variable-sized memory pool "mplX", which attribute is "TA_TPRI".

(2) While a get_mpl or tget_mpl service call in (1) is handled, the interrupt handler "inthdrA" issues the chg_pri or ichg_pri service call to the task which issued a get_mpl or tget_mpl service call in (1) .

Note, however, that even if the above conditions are both satisfied, this problem may not arise depending on how data is processed within the OS.

2.3 Workaround

Make changes to the code so that either or both of the above conditions are not satisfied.

2.4 Schedule of Fixing the Problem

We plan to fix this problem in the next version of the product.

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