

RENESAS TOOL NEWS on August 1, 2005: RSO-HI7000/4-050801D

The Real-Time OS HI7000/4 Revised to V.2.01 Release 00

We have revised the real-time OS HI7000/4 to from V.2.00 to V.2.01 Release 00.
(This is used for the SuperH RISC engine family, supporting the MCUs using any of the SH-1, SH-2, SH2-DSP, SH-2A, and SH2A-FPU cores.)

1. The Previous Versions of the Product to Be Revised

HI7000/4 V.2.00 Release 00, Release 01, and Release 02

2. Descriptions of Revision

2.1 Functions Introduced and Improved

- (1) Improvements of variable-length memory pools made
Gaining and relinquishing memory blocks are performed very rapidly. Also attribute value VTA_UNFRAGMENT has been introduced to reduce fragmentation of vacant areas.
- (2) The initial values of the DSR registers in the DSP changed
The initial values of the DSR registers, which are used for the tasks with attribute value TA_COP0 and for the task exception- handling routine, have been changed from indefinite to 0s.
- (3) The initial value of the SR register for the task exception- handling routine changed
The initial value of the SR register used for the task exception- handling routine has been changed from the same value as in the task before initiation to 0.
- (4) Handling of vector numbers 16--24 and 26--31

improved

A handler can be defined for handling these vector numbers.

- (5) The CFG_IBNR-ADR edit box introduced which assigns the address of the IBNR register
The CFG_IBNR_ADR edit box has been introduced on the configurator's. "Interrupt/CPU Exception Handler" page. This is used for assigning the address of the IBNR register.
The reason of the use of CFG_IBNR_ADR is that, in the previous version, the kernel accesses the IBNR register provided that a fixed address of H'fffe080e is assigned to the IBNR register, so the register bank cannot be used in the MCUs where different addresses are assigned to their IBNR registers.
- (6) Restrictions on aligning the structure elements raised
The restrictions imposed on the pack option and the #pragma pack directive at compilation have been raised.

2.2 Problems Fixed

The problems described in Sections 2.2.1 and 2.2.2 below have been fixed.

2.2.1 On Linking Errors Arising at Making Service Calls from C++ Programs

Conditions:

This problem occurs if the following problems are all satisfied:

- (1) Service calls are made from a C++ program.
- (2) Either the sh2a or the sh2afpu option is used as the cpu option at compilation.
- (3) "Only for Service Call" is selected out of the CFG_TBR pull-down list on the configurator's "Kernel Execution Condition" page.

2.2.2 On Setting the Timer Interrupt Priority Level and on Reading Files Not Supported
For details, see RENESAS TOOL NEWS No. RSO-RTOS-050716D, "Notes on Using the Real-Time OSes HI7750/4, HI7700/4, HI7000/4 and HI1000/4" issued on July 16, 2005.

3. How to Update Your Product and Purchase the Revised One

3.1 Free-of-Charge Update

Free-of-charge update is available if you are using any of the previous versions of the product to be revised.

To update yours online, download the revised product from **HERE**.

3.2 Ordering Information

If you place an order for the product, please supply the following items of information to your local Renesas Technology sales office or distributor (for the price of the product, also contact them):

Product Type	HI7000/4
Type Name	R0R40700TXW02w
Version No.	V.2.01
Release No.	Release 00
Host OS	Windows XP, Windows Me, Windows 98, Windows 2000 or Windows NT 4.0

NOTICE:

Lower case letter w in the type name denotes the type of license. It shall be replaced with any of the following numerals or letters:

- 1: License for evaluation; a real-time OS can be installed only to one host computer.
- 5: License for evaluation; a real-time OS can be installed up to 5 host computers.
- A: License for evaluation; a real-time OS can be installed up to 10 host computers.

- K: Mass-production license; a real-time OS can be embedded up to a total of 1,000 productions of product model(s) with the source code not disclosed.
- U: Mass-production license; a real-time OS can be embedded up to unlimited productions of product model(s) with the source code not disclosed.
- Z: Mass-production license; a real-time OS can be embedded up to unlimited productions of product model(s) with the source code disclosed.

Example:

For mass-production license up to a total of 1,000 productions with the source code not disclosed, the type name is
R0R40700TXW02K

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