RENESAS Tool News

Note on Using Renesas Peripheral Driver Libraries and Peripheral Driver Generator

When using Renesas Peripheral Driver Libraries and Peripheral Driver Generator, take note of the following problem:

- With making the settings of fast interrupts

1. Products and Versions Concerned
 - RX210 Group Renesas Peripheral Driver Library Rev.1.01
 - RX630 Group Renesas Peripheral Driver Library Rev.1.00
 - Peripheral Driver Generator V.2.03 and later

2. Description
If you make the setting of a fast interrupt in the above Renesas Peripheral Driver Libraries and Peripheral Driver Generator, an incorrect address is written to the vector register for fast interrupts (FINTV), which stores the destination address indicated by the fast interrupt to be generated.

3. Conditions
3.1. Renesas Peripheral Driver Libraries
This problem arises if the R_INTC_CreateFastInterrupt function is used to define the interrupt sources of fast interrupts.

3.2. Peripheral Driver Generator
This problem arises if the following conditions are both satisfied:
(1) Any MCU of the RX210 or RX630 group is used.
(2) The Interrupts page is opened to make the settings of the interrupt control unit (ICUb), and any item except None is selected from the Interrupt source drop-down list in the Fast interrupt area.

4. Workaround
To avoid this problem, replace the expression

```
    set_fintv((void *) vector_location)
```
with
```
    set_fintv((void *) * vector_location)
```
within the Interrupt_BRK function in the Interrupt_INTC.c file.
This modification, which is valid for all the products and versions
concerned in common, is explained below.

Source file: Interrupt_INTC.c

```
void Interrupt_BRK(void)
{
    uint32_t * vector_location;
    volatile uint32_t * stacked_psw_ptr;
    uint32_t psw_copy;

    . . . . . . . . . . . . . . . . .


    case BRK_LOAD_FINTV_REGISTER:
       /* Find the start of the maskable interrupt vector table */
       vector_location = (uint32_t *)get_intb();
       /* Move to the location of the address of the selected
         interrupt */
       vector_location += ICU.FIR.BIT.FVCT;
       /* Store the address of this vector in the FINTV register */
    /* Workaround begins here*/
    //  set_fintv((void *) vector_location); Replace this line with next.
       set_fintv((void *) * vector_location);
    /* Workaround ends here*/

    . . . . . . . . . . . . . . . . .
```

We provide you with the modified Interrupt_INTC.c file. How to obtain it
and substitute it for the existing file are as follows:
(1) Download the zip. file for the RX210 group (3 KB) from
    http://tool-support.renesas.com/autoupdate/support/eng/130216/rx210.zip
   or the one for the RX630 group (5 KB) from
    http://tool-support.renesas.com/autoupdate/support/eng/130216/rx630.zip
   These Web pages will be opened on March 5, 2013.
(2) Decompress the zip. file you want and obtain the modified
    Interrupt_INTC.c file.
(3) Replace the existing Interrupt_INTC.c file with the modified one
   as follows:
   a. In Renesas Peripheral Driver Libraries
      Replace the existing Interrupt_INTC.c file, which is included
      in each of the libraries.
   b. In Peripheral Driver Generator

Replace the existing file, which resides under the product-installed directory. This directory depends on MCU groups as follows:
  - In the RX210 group: source¥RX¥RX210¥i_src¥Interrupt_INTC.c
  - In the RX630 group: source¥RX¥RX630¥i_src¥Interrupt_INTC.c

5. Schedule of Fixing Problem

We plan to fix this problem in the next versions of the products concerned.