RENESAS Tool News

A Note on Using Simulator Debugger M3T-PD32RSIM V.2.00 Release 1

Please take note of the following problem in using simulator debugger M3T-PD32RSIM for the M32R family MCUs:

- On results of comparisons by the FCMP or FCMPE instruction

1. **Version Concerned**

   M3T-PD32RSIM V.2.00 Release 1

2. **Description**

   Comparisons using the FCMP or FCMPE instruction may yield incorrect results.

3. **Conditions**

   This problem occurs if the following three conditions are satisfied:

   (1) The values in the Rsrc1 and Rsrc2 registers are both normalized numbers.
   (2) The value in Rsrc1 is greater than the one in Rsrc2
   (3) The following expression holds:
   $1.0*2^{(-128)}+1.0*2^{(-129)} <= | Rsrc1 - Rsrc2 | < 1.0*2^{(-127)}$

   3.1 Example

   In the program below, the result of executing the FCMP instruction becomes "Comparison Impossible"; that is, the value indicating the comparison cannot be performed is stored in the Rdest register.

   ```
   --------------------------------------------------------------
     LD24 R1, #H'B00000
     LD24 R2, #H'800000
     FCMP R0, R1, R2
   --------------------------------------------------------------
   ```

4. **Workaround**

   This problem can be circumvented by using the problem-fixed simulator engine

(sim32r.exe). So, please replace the simulator engine in your product with the above-mentioned one as follows:

(1) Download the problem-fixed simulator engine (the sim32r.zip compressed file: 94.6KB).

(2) Decompress the downloaded file to obtain the sim32r.exe file.

(3) With the decompressed sim32r.exe file, overwrite the old sim32r.exe file in the folder where the pd32rsim.exe file resides.

(4) Confirm the version of the new simulator engine.

    (a) Launch the M3T-PD32RSIM.

    (b) Right-click the SIM32R icon in the system tray and select the [Version...] menu.

    (c) The Version Information dialog box opens, on which the version of the problem-fixed simulator engine will be displayed.

    (d) Confirm the version is V.2.00.01.

5. Schedule of Fixing the Problem

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