

RENESAS TOOL NEWS on August 8, 2007: 070808/tn1

The C/C++ Compiler Package for the SuperH RISC engine Family of MCUs Revised to V.9.01 Release 01

We have revised the C/C++ compiler package for the SuperH RISC engine family of MCUs from V.9.01 Release 00 to V.9.01 Release 01.

1. Descriptions of Revision

1.1 High-performance Embedded Workshop Updated

High-performance Embedded Workshop included in the compiler package has been updated to V.4.03.00. For details of this version, see RENESAS TOOL NEWS Document No. 070701/tn3, published on July 1, 2007, at <http://tool-support.renesas.com/eng/toolnews/070701/tn3.htm>

1.2 Options Introduced to the Optimizing Linkage Editor

The following options have been introduced to the optimizing linkage editor (hereafter abbreviated to the linker):

(1) total_size

Outputs the total size of sections to the standard output by each of the following types of section:

- Executable section
- ROM-allocated data section
- RAM-allocated data section

(2) show=total_size

Outputs the total size of sections to the linkage list by each of the above types of section.

1.3 Problem Fixed

1.3.1 In High-performance Embedded Workshop

The following known problem has been fixed:

- (1) The problem reported in RENESAS TOOL NEWS Document No. 070701/tn2, published on July 1, 2007, at

1.3.2 Compiler

The following problems have been fixed:

- (1) The problem reported in RENESAS TOOL NEWS Document No. 070716/tn1 (SHC-0072), published on July 16, 2007, at <http://tool-support.renesas.com/eng/toolnews/070716/tn1.htm>
- (2) The problem that incorrect results may be obtained when the following standard libraries are executed:
 - (a) `sscanf()`
 - (b) `sqrtf()` (SH-2E only)
 - (c) `asinf()` (SH-2E only)
 - (d) `acosf()` (SH-2E only)
- (3) The problem that the C4098 internal error may arise

1.3.3 Linker

- (1) The message corresponding to message number L3110 has been modified so that if the file causing the message to be sent is a specific library module within the library files, Linker V.9.03.00 or later can provide the name of the library module.

Examples:

Before modification (Linker V.9.02.00 or earlier)

```
** L3110 (F) Illegal cpu type "" in ""
```

After modification (Linker V.9.03.00 or later)

```
** L3110 (F) Illegal cpu type "" in "  
  ()"
```

- (2) Fixed has been the problem that Call Walker, the stack analyzing tool, provides a smaller value of the program's stack usage than the actual one.

This problem may occur if the following conditions are all satisfied:

- (a) Optimizing option `-optimize=1` is selected at compilation.
- (b) In the C source file exists a function calling another one that immediately follows it.

Example of C source file:

```
-----  
void f()  
{  
  :  
  g(); /* Function f calls g, which follows it */  
}  
void g()  
{
```

```
    :  
    }  
-----
```

Notice:

If option `goptimize` is not selected at compilation, this problem may arise in the latest linker, V.9.03.00. To avoid the problem, make sure to use `goptimize` at compilation.

We plan to fix the problem described here in the next release of the compiler.

To check for the version number of your linker, perform the following steps:

- (i) In High-performance Embedded Workshop, open the Tools menu and select the Administration command. The Tool Administration dialog box appears.
- (ii) Select the compiler package you are using among Toolchains in the Registered Components list of the above dialog box; then click the Properties button. The Properties dialog box opens.
- (iii) In the Information tab of this dialog box, the version numbers of your tools will be shown.

Example of a linker: Optimizing Linkage Editor (V.9.00.02)

- (3) The problems causing the following internal errors have been fixed:
 - L4000 (-) Internal Error : (1153)
 - L4000 (-) Internal Error : (3081)
 - L4001 (-) Internal Error

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

2.1 Free-of-Charge Update

Free-of-charge online update is available. Download the update program of the product from the Web site at

http://www.renesas.com/shc_download

and execute it. This site will be opened from August DD on.

Also you are able to update yours to V.9.01 Release 01 using AutoUpdate Utility.

2.2 First Ordering

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: The C/C++ compiler package for the SuperH RISC engine

family

Version No.: V.9.01

Release No.: Release 01

Host OS: Windows XP or Windows 2000

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