date: 2003/06/24

RENESAS TECHNICAL UPDATE

Classification of Production	Development Environment		No	TN-CSX-051A/E	Rev	1
THEME	SuperH RISC engine C/C++ Compiler Ver.7 bug report (8)	Classification of Information	1. Spec change 2. Supplement of Documents 3. (Limitation of Use) 4. Change of Mask 5. Change of Production Line			
PRODUCT NAME	P0700CAS7-MWR P0700CAS7-SLR P0700CAS7-H7R	Lot No. Ver.7.x	Reference Documents	SuperH RISC engine C/C++ Compiler Assembler Optimizing Linkage Editor User's Manual ADE-702-246A Rev.2.0	term of validity Eternity	

Attached is the description of the known bugs in Ver. 7 series of the SuperH RISC engine C/C++ compiler. Inform the customers who have the package version in the table below of the bugs.

	Package version	Compiler version
P0700CAS7-MWR	7.0B	7.0B
	7.0.01	7.0.03
	7.0.02	7.0.04
	7.0.03	7.0.06
	7.1.00	7.1.00
	7.1.01 7.1.02	7.1.01
P0700CAS7-SLR	7.0B	7.0B
	7.0.02	7.0.03
	7.0.03	7.0.04
	7.0.04	7.0.06
	7.1.00	7.1.00
	7.1.01 7.1.02	7.1.01
P0700CAS7-H7R	7.0B	7.0B
	7.0.02	7.0.03
	7.0.03	7.0.04
	7.0.04	7.0.06
	7.1.00	7.1.00
	7.1.01 7.1.02	7.1.01

The check tool can be downloaded from the following URL.
http://www.renesas.com/eng/products/mpumcu/tool/index.html

Attached: P0700CAS7-030422E
SuperH RISC engine C/C++ Compiler Ver. 7 Known Bugs Report(8)

SuperH RISC engine C/C++ Compiler ver. 7
Known Bugs Report (8)

The failures found in the ver. 7 series of the SuperH RISC engine C/C++ compiler are listed below. The check tool can be downloaded from the following URL:

http://www.renesas.com/eng/products/mpumcu/tool/index.html

1. Illegal output of data

[Description]

When there are many variables with initial value of "symbol address + offset" in the source program, the internal error may occur or an illegal object may be generated.

[Conditions]

This problem may occur when all of the following conditions are satisfied.

Instances of this bug in the program can be found using the check tool.

(1) The code=asmcode option is specified. (This option is valid by default.)

(2) The listfile option is not specified, or both the listfile option and the show=noobject option are specified.

(3) A variable with an initial value exists.

(4) The initial value is described in the form of "symbol address + offset" or an address of a struct member which is not allocated at the top of the struct.

(5) In all of such variables, the variables and offsets of initial value satisfy with the following condition:

(number of such variables + sum of number of decimal-digits in offset) >= 33,000

<Example>

```
extern char g;
#define DATA1A   (&g+2147483647)
#define DATA10A  DATA1A,  DATA1A,  DATA1A,  DATA1A,  DATA1A,¥
                 DATA1A,  DATA1A,  DATA1A,  DATA1A,  DATA1A
#define DATA100A DATA10A, DATA10A, DATA10A, DATA10A, DATA10A,¥
                 DATA10A, DATA10A, DATA10A, DATA10A, DATA10A

/* In this case,                                                    */
/* number of variables + the sum of decimal-digit number of offset */
/* = (3001+10*3001) = 33011 > 33000                                 */
char *a1[1000] = {
      DATA100A, DATA100A, DATA100A, DATA100A, DATA100A,
      DATA100A, DATA100A, DATA100A, DATA100A, DATA100A
};
char *a2[1000] = {
      DATA100A, DATA100A, DATA100A, DATA100A, DATA100A,
      DATA100A, DATA100A, DATA100A, DATA100A, DATA100A
};
char *a3[1000] = {
      DATA100A, DATA100A, DATA100A, DATA100A, DATA100A,
      DATA100A, DATA100A, DATA100A, DATA100A, DATA100A
};
char *a = DATA1A;
```

[Solution]

If a relevant failure exists, prevent the problem by either of the following methods.

(1) Specify the listfile option without the show=noobject option to compile the file.

(2) Specify the code=asmcode option to compile the file.