RENESAS Tool News

RENESAS TOOL NEWS on April 1, 2011: 110401/tn1

The C/C++ Compiler Package for the M16C Series and the R8C Family V.6.00 Release 00 Released

Summary We have revised the C compiler package for the M16C series and the R8C family (M3T-NC30WA) V.5.45 Release 01 to the C/C++ compiler package for the M16C series and the R8C family (M3T-NC30WA) V.6.00 Release 00. Note that the product name has been modified (C to C/C++).

1. Descriptions of Revision

Here are described main features of the revision. For further information, see the release note of the product, or the Appendix K "Contents of Upgrade and Migration Method" in the C/C++ Compiler User's Manual.
These documents will be also published on the following Web page from April 5.
http://www.renesas.com/nc30wa_document
The above URL is one of our global sites.

1.1 Functions Improved

(1) Supported MCUs Increased
The MCUs of the following groups have been added to the support line:
- R8C/L35C, R8C/L36C, R8C/L38C, R8C/L3AC, R8C/LA6A, and R8C/LA8A (R8C/Lx series)
- R8C/M11A and R8C/M12A (R8C/Mx series)
- R8C/32C, R8C/33C, R8C/34C, R8C/35C, R8C/36C, R8C/38C, R8C/3GC, R8C/3JC, R8C/32D, R8C/33D, R8C/35D, R8C/3GD, R8C/33T, R8C/34E, R8C/34G, R8C/36E, R8C/36G, R8C/38E, R8C/38G, R8C/34W, R8C/34Y, R8C/36W, R8C/36Y, R8C/38W, and R8C/38Y (R8C/3x series)
- M16C/5M, M16C/57, M16C/5L, and M16C/56

(M16C/50 series)

When a new workspace is created in High-performance Embedded Workshop, the SFR definition file for any MCU of the above groups can be generated.
Note that the above MCUs have already been supported by the V.5 products through the revision of Device File Updater.
For Device File Updater see:
http://www.renesas.com/dfu
The above URL is one of our global sites.

(2) Compatible with Windows(R) 7
The product is compatible with the 64-bit and the 32-bit editions of Windows(R) 7.

(3) C++ language supported
The language support of the product has been extended to C++.

(4) Linkage editor refurbished
The specifications of the refurbished linkage editor are different from those of the previous ones.
In the refurbished editor, the following functions, for example, have been introduced:
(a) Automatically splitting and placing sections
When you write programs, for example, the fixed vector area of the R8C MCU family can be automatically excluded from the programming area.
(b) Optimizing the deletion of unreferenced symbols
By optimizing the deletion of unreferenced symbols, ROM and RAM sizes can be minimized.

(5) Change made to object format
The object format has been changed from the IEEE695 format to the ELF format. According to this change, the converter that converts the objects and libraries written in the IEEE695 format to those in the ELF format has been included in the C/C++ compiler package.

(6) Requirements for directory and file names in the source program improved
Characters not specified in the ASCII code can be used for directory and file names in the source program.

(7) Generation of device.c files improved
In previous versions, the following problem may arise:

When the Use Standard I/O Library check box is selected in the new project created for an MCU, the device.c file for another MCU is used. Here, the device.c file is included in a standard library that is not appropriate to the MCU intended.
In the new C/C++ compiler, the device.c file for the MCU intended is generated.

1.2 Problems Fixed

The following known problems have been fixed:

(1) With using compile option -OSFA (-Ostack_frame_align)
For details see RENESAS TOOL NEWS Document No. 070701/tn5 at:
http://tool-support.renesas.com/eng/toolnews/070701/tn5.htm

(2) With performing right-shift operations
For details see RENESAS TOOL NEWS Document No. 070716/tn4 at:
http://tool-support.renesas.com/eng/toolnews/070716/tn4.htm

(3) With building a static function having a static variable within it
For details see RENESAS TOOL NEWS Document No. 080716/tn1 at:
http://tool-support.renesas.com/eng/toolnews/080716/tn1.htm

(4) With initializing a member of a structure using an expression containing the sizeof operator
For details see RENESAS TOOL NEWS Document No. 080716/tn2 at:
http://tool-support.renesas.com/eng/toolnews/080716/tn2.htm

(5) With referencing the Map Symbol Information window
For details see RENESAS TOOL NEWS Document No. 080916/tn2 at:
http://tool-support.renesas.com/eng/toolnews/080916/tn2.htm

(6) With using compile option -OGJ, which optimizes external variables
For details see RENESAS TOOL NEWS Document No. 100616/tn3 at:
http://tool-support.renesas.com/eng/toolnews/100616/tn3.htm

NOTICE: In the new C/C++ compiler, -OGJ is not used, but an equivalent option used.

(7) With building projects that use real-time OSes
For details see RENESAS TOOL NEWS Document No. 100616/tn4 at:
http://tool-support.renesas.com/eng/toolnews/100616/tn4.htm

NOTICE: The real-time OS supported by the new C/C++ compiler, M3T-MR30/4, will be published in June 2011.

(8) With changing the versions of toolchains in High-performance Embedded Workshop
For details see RENESAS TOOL NEWS Document No. 100910/tn1 at:
http://tool-support.renesas.com/eng/toolnews/100910/tn1.htm

(9) With the definitions of interrupt vector functions of UART1
For details see RENESAS TOOL NEWS Document No. 101116/tn1 at:
http://tool-support.renesas.com/eng/toolnews/101116/tn1.htm

1.3 High-performance Embedded Workshop Updated

The High-performance Embedded Workshop included in the product package has been updated from V.4.07.01 to V.4.09.00.
For details of the revision, which was made in two steps, see the following RENESAS TOOL NEWS items:
- Document No. 100701/tn1 (to V.4.08.00) at:
  http://tool-support.renesas.com/eng/toolnews/100701/tn1.htm
- Document No. 110316/tn1 (to V.4.09.00)
  http://tool-support.renesas.com/eng/toolnews/110316/tn1.htm

1.4 Simulator Debugger Updated

The simulator debugger included in the product package has been updated from V.1.04 Release 00 to V.1.06 Release 00.
For details of the revision, which was made in two steps, see the following RENESAS TOOL NEWS items:
- Document No. 100516/tn3 (to V.1.05 Release 00) at:
  http://tool-support.renesas.com/eng/toolnews/100516/tn3.htm
- Document No. 110401/tn2 (to V.1.06 Release 00) at:
  http://tool-support.renesas.com/eng/toolnews/110401/tn2.htm
  This Web page will be opened on April 5.

2. How to Purchase the Revised Product

The revised product has been much improved in its functionality, including support for the C++ language, from the preceding version as described later.
So free-of-charge update is unavailable.
If you are using a previous version, you are encouraged to purchase the following product, which includes this C/C++ compiler package:

Product type:
C/C++ Compiler Package for R8C and M16C Families 2011.04

This product contains the following components:

- The C/C++ compiler package for the M16C series and the R8C family (M3T-NC30WA) V.6.00 Release 00
- The C compiler package for the M32C series (M3T-NC308WA) V.5.42 Release 00A (See NOTE 1.)
- The C compiler package for the R32C series V.1.02 Release 01A (See NOTE 1.)
- The MISRA C rule checker (SQMlint) V.1.03 Release 00C (See NOTE 2.)

NOTES:

1. No changes have been made to the preceding version except that A is attached to the release number. Because the package has been modified, the release number has also been modified.
2. SQMlint, which has been optional, is included. No changes have been made to V.1.03 Release 00B in functionality.

Place an order for the revised product to your local Renesas Electronics sales office or distributor with the following items of information.

Product type: C/C++ Compiler Package for R8C and M16C Families 2011.04
Host OS: Windows(R) 7, Windows Vista(R), or Windows(R) XP
NOTICE: The 64-bit editions of Windows Vista(R) and Windows(R) XP are excluded.

For the price of the product, also contact the above sales office or distributor.
