

Notes on Using Real-Time OSes for RX Family

When using the real-time OSes for the RX family of MCUs RI600V4, RI600PX, RI600/4, and RI600/PX, take note of the following problems:

- With message output at compilation
 - With using task analyzer tool for real-time OS
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1. Problem with Message Output at Compilation

1.1 Products and Versions Concerned

- (1) RI600V4 V1.01.00 through V1.02.02 (managed by CubeSuite+)
- (2) RI600PX V1.01.00 through V1.01.01 (managed by CubeSuite+)
- (3) RI600/4 V.1.00 Release 00 through V.1.01 Release 01
(managed by High-performance Embedded Workshop)
- (4) RI600/PX V.1.00 Release 00 through V.1.00 Release 01
(managed by High-performance Embedded Workshop)

1.2 Description

When the file including the header file (kernel_id.h) that is output by the configurator is compiled with any of the compiler options shown in section 1.3 selected, the message shown in section 1.4 may be output by the compiler in the following statement in the header file:

- #pragma task
- #pragma cychandler
- #pragma almhandler
- #pragma taskexception (see NOTE)

NOTE: Only RI600PX and RI600/PX are concerned.

In this case, compilation is halted and no object code is generated. However, if compilation ends successfully, the generated object code has no problem caused by this message.

1.3 Conditions

This problem occurs when any of the conditions below is met:

- (1) The compiler option "-message" has been selected.
This option enables the output of information-level messages.
- (2) The compiler option "-change_message=warning" has been selected.
This option changes information-level messages to warning-level messages.
- (3) The compiler option "-change_message=error" has been selected.
This option changes information-level and warning-level messages to error-level messages.

NOTE:

None of these options are selected by default in the compiler.

1.4 Examples

- (1) For RX Compiler CC-RX V1.02.00 to V1.03.00

C6681 (E) This pragma has no effect

The part of (E) changes depending on the message level.

- Error level: (E)
- Warning level: (W)
- Information level: (I)

- (2) For RX Compiler CC-RX V2.00.00 to V2.00.01

E0523009:This pragma has no effect

The first character E changes depending on the message level.

- Error level: E
- Warning level: W
- Information level: M

1.5 Workarounds

Avoid this problem using any of the following methods:

1.5.1 When the Compiler Option "-message" has been Selected

Select the below option instead of the "-message" option.

This prevents the output of the message with the relevant message number.

- (1) For RX Compiler CC-RX V1.02.00 to V1.03.00

-nomessage=6681

(2) For RX Compiler CC-RX V2.00.00 to V2.00.01

-nomessage=23009

1.5.2 When the Compiler Option "-change_message=warning" has been Selected

(1) For RX Compiler CC-RX V1.02.00 to V1.03.00

Add the following option so that the message with the relevant message number is changed to an information-level message.

-change_message=information=6681

CAUTION:

This additional option should be placed after "-change_message=warning".

When using CubeSuite+, enter "-change_message=information=6681" in the Other additional options text box in the Others category of the Compile Options tab.

(2) For RX Compiler CC-RX V2.00.00 to V2.00.01

Specify as below to prevent the message with the relevant message number from being changed to a warning-level message.

-change_message=warning=0-23008,23010-99999

1.5.3 When the Compiler Option "-change_message=error" has been Selected

(1) For RX Compiler CC-RX V1.02.00 to V1.03.00

Add the following option so that the message with the relevant message number is changed to an information-level message.

-change_message=information=6681

CAUTION:

This additional option should be placed after "-change_message=error".

When using CubeSuite+, enter "-change_message=information=6681" in the Other additional options text box in the Others category of the Compile Options tab.

(2) For RX Compiler CC-RX V2.00.00 to V2.00.01

Specify as below to prevent the message with the relevant message number from being changed to an error-level message.

-change_message=error=0-23008,23010-99999

1.6. Schedule for Fixing the Problem

For RI600V4 and RI600PX, this problem will be fixed in the next version of the products.

For RI600/4 and RI600/PX, there is no plan to fix this problem. Use the methods listed in section 1.5 to avoid this problem.

2. Problem with Using Task Analyzer Tool for Real-Time OS

2.1 Product and Versions Concerned

RI600V4 V1.01.00 through V1.02.02 (managed by CubeSuite+)

2.2 Description

In the debugger, if a breakpoint has been set and execution is stopped at that breakpoint or if the free-running state is stopped, the task analyzer sometimes generates an exception during drawing of the transition diagram and thus the transition diagram is not displayed. Note, however, that this problem does not occur if there is no code like that given in section 2.3.

2.3 Condition

This problem occurs when an interrupt handler, cyclic handler, or alarm handler issues the `sus_tsk` service call in the created application, and as a result, there are no tasks in the RUNNING and READY state.

2.4 Solution

This problem will be fixed in the next version of the product.

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