

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 issuing the `unl_cpu` service call
- With giving a value to the address of the reset vector

1. Problem with Issuing the `unl_cpu` Service Call

1.1 Products and Versions Concerned

- (1) RI600V4 V1.01.00 and V1.02.00 managed by CubeSuite+
- (2) RI600/4 V.1.00 Release 00 through V.1.01 Release 00 managed by High-performance Embedded Workshop

1.2 Description

If a task issues the `loc_cpu` and `unl_cpu` service calls to lock and unlock the CPU, the following problems arise after servicing the `unl_cpu` call:

- (1) Interrupts are not acknowledged which would be done.
- (2) The address area ranging from address A to address A plus 4 bytes are rewritten incorrectly. Here address A is as follows:

Address A = (the address pointed to by the user stack pointer
[USP] at the time when a call is made to `unl_cpu`)
+ 24 bytes

1.3 Conditions

This problem arises either of the following conditions is satisfied:

- (1) You define `system.context` as "MIN" in the system configuration file.
- (2) You select the MIN check box in the System definition window of the GUI configurator.

1.4 Workaround

To avoid this problem, do not define `system.context` as "MIN."
Define a selectable definition except "MIN."

1.5 Schedule of Fixing Problem

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

2. Problem with Giving a Value to the Address of the Reset Vector

2.1 Products and Versions Concerned

- (1) RI600V4 V1.01.00 and V1.02.00 managed by CubeSuite+
- (2) RI600PX V1.01.00 managed by CubeSuite+
- (3) RI600/4 V.1.01 Release 00 managed by High-performance Embedded Workshop
- (4) RI600/PX V.1.01 Release 00 managed by High-performance Embedded Workshop

2.2 Description

In the system configuration file, if you give a value to the address of the reset vector (`interrupt_fvector[31].entry_address`), or in the GUI configurator, if you type a value for No. 31 fixed vector into the Address text box of the Fixed interrupt handler definition dialog box, the following error message appears during linking:

```
L2310 (E) Undefined external symbol "PowerON_Reset_PC" referenced in ".obj"
```

2.3 Workaround

To avoid this problem, use the following linker option to perform the linking operation:

```
-define=PowerON_Reset_PC=0
```

You can define any value.

You can define `PowerON_Reset_PC` as any value.

2.4 Schedule of Fixing Problem

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

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