[Notes]

High-performance Embedded Workshop

Integrated Development Environment

Outline

When using the High-performance Embedded Workshop Integrated Development Environment, note the following point.

1. The problem of the High-performance Embedded Workshop Integrated Development Environment being terminated forcibly when debugging a load module that includes an overlay section

1. The problem of the High-performance Embedded Workshop Integrated Development Environment Being Terminated Forcibly When Debugging a Load Module that Includes an Overlay Section

1.1   Applicable Products

➢   High-performance Embedded Workshop Integrated Development Environment V2.0 and later

1.2   Applicable MCUs

➢   SuperH RISC engine, RX, R8C, M16C, H8SX, H8S, and H8 families

1.3   Details

The High-performance Embedded Workshop is sometimes terminated forcibly when downloading, by a simulator debugger or an emulator, the absolute file (*.abs) of a program that uses an overlay section.

1.4   Condition

This problem occurs when you allocate multiple sections consecutively in consecutive addresses just after an overlay section, and the total string length of these section names (as separated by commas) exceeds 1023.

Example:

    section_A (0x1000-0x10FF)   OVL_section_A (0x1000-0x10FF)

    section_B (0x1100-0x11FF)

    section_C (0x1200-0x12FF)

    section_D (0x1300-0x13FF)

                    :

In the above section layout, the overlay dialog box displays the following strings:

    "section_A, section_B, section_C, section_D..."

    "OVL_section_A, section_B, section_C, section_D..."

Forcible termination may occur when this string length exceeds 1023.

1.5   Workaround

Workarounds are as described below.

Note that this problem is a problem of the debugging function of the High-performance Embedded Workshop, not a problem of the load module generated by the build tool.

1.5.1   Changing the section names to shorter names

Shorten the names of the overlay section and the sections consecutively allocated just after the overlay section so that the total string length does not exceed 1023.

Example:

"OVL_sect_A, sect_B, sect_C, sect_D, ..."

1.5.2   Changing the section layout so that the addresses of the overlay section and the next section are not consecutive

Change the address of the overlay section or the section whose address is just after the overlay section. Here are three examples of workarounds of the example in "1.4 Condition."

Example 1:

Changing the address of the overlay section

section_A (0x0F00-0x0FFF)   OVL_section_A (0x0F00-0x0FFF)   <- Moving to a different address

No section (0x1000-0x10FF)   <- No section is allocated at the original address area.

section_B (0x1100-0x11FF)

section_C (0x1200-0x12FF)

section_D (0x1300-0x13FF)

        :

Example 2:

Changing the addresses of the section just after the overlay section

section_A (0x1000-0x10FF)   OVL_section_A (0x1000-0x10FF)

No section (0x1100-0x1103)   <- No section is allocated at the original address area.

section_B (0x1104-0x1203)   <- Address changed

section_C (0x1204-0x1303)   <- Address changed

section_D (0x1304-0x1403)   <- Address changed

        :

Example 3:

Relocating only the section just after the overlay section

    section_A (0x1000-0x10FF)   OVL_section_A (0x1000-0x10FF)

  No section (0x1100-0x11FF)   <- No section is allocated at the original address area.

    section_C (0x1200-0x12FF)

    section_D (0x1300-0x13FF)

    section_B (0x1400-0x14FF)   <- Moving to a different address

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1.6   Schedule for Fixing the Problem

We do not plan to fix the problem.

Revision History

Rev.	Date	Description	
		Page	Summary
1.00	Jul. 1, 2017	-	First edition issued

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