

To our customers,

Old Company Name in Catalogs and Other Documents

On April 1st, 2010, NEC Electronics Corporation merged with Renesas Technology Corporation, and Renesas Electronics Corporation took over all the business of both companies. Therefore, although the old company name remains in this document, it is a valid Renesas Electronics document. We appreciate your understanding.

Renesas Electronics website: <http://www.renesas.com>

April 1st, 2010
Renesas Electronics Corporation

Issued by: Renesas Electronics Corporation (<http://www.renesas.com>)

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RENESAS TECHNICAL UPDATE

Classification of Production	Development Environment		No	TN-OS*-078A/E	Rev	1.0
THEME	Notes on Use of the Variable-Size Memory Pool Function in the HI8-2600		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	Refer to the following "2. Product Model".	Lot No.	Reference Documents	HI8-2600 User's Manual ADE-702-137A Revision 2.0 HI8-2600 System Configuration Manual ADE-702-138A Revision 2.0		Term of Validity
		V1.0 V2.0WS V2.0 V2.0A V2.0B				Permanent

Thank you for using our product.
Please observe the notes listed below on use of the variable-size pool function.

1. Variable-Size Memory Pool Function

1.1 Release of a Wait Queue

[Problem]

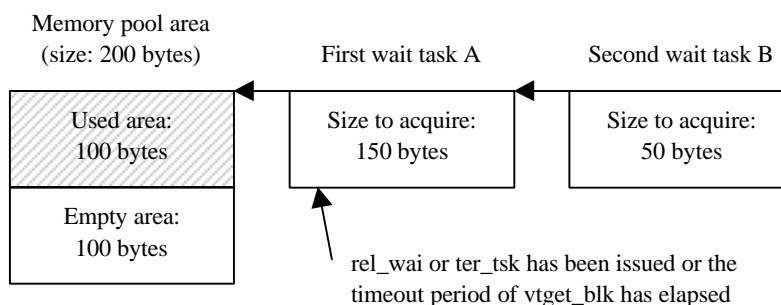
When there are multiple wait queues for a variable-size memory pool, the second and later wait queues may not be released. In this case, tasks in the WAIT state will be released the next time the `vrel_blk` system call is issued.

[Conditions]

This problem may arise when both of the following conditions are satisfied.

- (a) There are multiple tasks waiting to acquire a memory block.
- (b) The WAIT state of the first task to acquire a memory block has been released by timeout of `vtget_blk` or system call `rel_wai` or `ter_tsk` (excluding the `vrel_blk` system call).

Example:



In the above figure, task A and task B are waiting to acquire 150 bytes and 50 bytes, respectively, of the 200-byte memory pool. When timeout of task A occurs after the specified timeout period of `vtget_blk` has elapsed or the WAIT state of task A has been released by system call `rel_wai` or `ter_tsk` issued to task A, task B still remains in the WAIT state and acquires no memory block even though it has now become the first wait task.

[Solution]

Keep sufficient variable-size memory pool area so that no task will enter the WAIT state.

1.2 Size of a Memory Pool Area

[Problem]

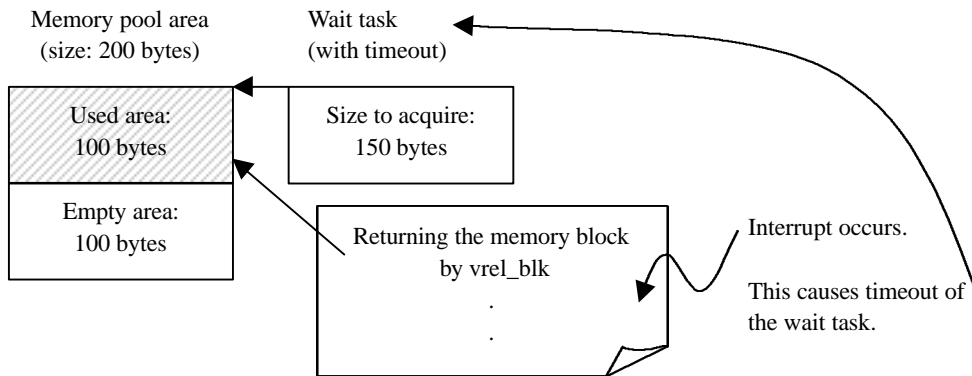
The available size of a variable-size memory pool may be reduced.

[Conditions]

This problem may arise when both of the following conditions are satisfied.

- (a) There is a task waiting to acquire a memory block.
- (b) The WAIT state of the first wait task is released while the memory block is being returned.

Example:



In the above figure, there is a wait task with timeout for the memory pool. When a timer interrupt occurs and causes timeout as the timeout period remained for the wait task is zero while the memory block is being returned by vrel_blk, 150 bytes of the memory pool area will be used and thus the empty area will be 50 bytes. The wait task has already had timeout and acquired no memory block. However, the memory pool assumes that the memory block is acquired.

[Solution]

Keep sufficient variable-size memory pool area so that no task will enter the WAIT state.

2. Product Model

Host Computer	Model Name
IBM PC (MS-DOS)	HSS008ITIN1SFB, HSS008ITIN1SFS, HSS008ITIN2SFB, HSS008ITIN2SFE, HSS008ITIN2SFS, HSS008ITIN2SFU, HSS008ITIN2SFV, HSS008ITIN2SFW, HSS008ITIN2SFZ, HSS008ITIN2SFX, HSS008ITIN2SFY
SPARC	HSS008ITCN1SFB, HSS008ITCN1SFS, HSS008ITCN1SMB, HSS008ITCN1SMS, HSS008ITCN2SFB, HSS008ITCN2SFE, HSS008ITCN2SFS, HSS008ITCN2SMB, HSS008ITCN2SME, HSS008ITCN2SMS
HP9000	HSS008ITHN1STB, HSS008ITHN1STS, HSS008ITHN2STB, HSS008ITHN2STE, HSS008ITHN2STS