

A Note on Using Real-Time OS M3T-MR30/4

Please take note of the following problem in using the real-time OS-- M3T-MR30/4--for the M16C series, M16C family of MCUs:

- With selecting values of timeout and delay time
-

1. Product and Versions Concerned

The real-time OS for the M16C series of MCUs: (See NOTE.)
M3T-MR30/4 V.4.00 Release 00 and V.4.00 Release 01

NOTE:

The M16C series is the generic name of the M16C/60, /50, /30, /20, /10, /Tiny and R8C/Tiny series.

2. Description

If you select 32768 or more as a value of timeout or delay time, timeout may happen earlier than the specified.

3. Conditions

This problem may occur if the following conditions are both satisfied:
(1) Two or more tasks are waiting for timeout or time to be elapsed.
(2) Among the tasks in (1), at least one task takes 32768 or more as a value of timeout or delay time.

4. Workaround

Select a value of 32768 or more by using both the alarm handler and the service call for eternal wait.

Examples of problem-arising and problem-fixed programs are shown below where 60000 is selected as a timeout value.

Example problem-arising program:

```
-----  
void task1(VP_INT exinf)  
{  
    ER ercd;  
  
    .....  
    twai_sem(ID_SEM1,60000);  
    :  
}
```

Example problem-fixed program:

```
-----  
void task1(VP_INT exinf)  
{  
    ER ercd;  
  
    .....  
    /* Alarm handler started to remove wait for  
       semaphore after 60 seconds */  
    sta_alm(ID_alm1,60000)  
    ercd = wai_sem(ID_SEM1);  
    if( ercd == E_OK ){  
        /* Alarm handler stopped after acquiring semaphore */  
        stp_alm(ID_alm1);  
    }  
  
    .....  
}
```



```
void alm1(VP_INT exinf)  
{  
    /* Forcibly remove wait for semaphore  
       after specified time */  
    irel_wai(ID_task1);  
}
```

```
-----
```

5. Schedule of Fixing the Problem

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

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