Outline

When using the products in the title, note the following point.

1. Using link mode of DMAC

1. Using Link Mode of DMAC

1.1 Applicable Products

- e² studio V4.0.0.26 (Code Generator plug-in V2.0.0 and later versions)
- AP4 coding assistance tool for RZ V1.00.00 and later versions

1.2 Applicable MCUs

- RZ family: RZ/T1 group

1.3 Details

When using link mode of DMAC, the code generator setting value for descriptor after transfer will be different from the WBD bit in the descriptor header, resulting in unexpected operation.

<table>
<thead>
<tr>
<th>Code generator setting value</th>
<th>WBD bit in the descriptor header</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 (descriptor not disabled automatically after transfer)</td>
<td>1</td>
</tr>
</tbody>
</table>

Check "Auto disable descriptor after transfer".

| 0 (descriptor disabled automatically after transfer) | |

Uncheck "Auto disable descriptor after transfer".
1.4  Workaround

Modify the code in r_cg_dmac.c after code generation.

The following modification example is when ch0 of DMAC0 is selected. Modifications are indicated in red.

### Code generator setting value

<table>
<thead>
<tr>
<th>Code generator setting value</th>
<th>Code modification example in r_cg_dmac.c</th>
</tr>
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<tbody>
<tr>
<td><img src="image1" alt="Code generator setting value" /></td>
<td><img src="image2" alt="Code modification example in r_cg_dmac.c" /></td>
</tr>
</tbody>
</table>

- **Before modification**
  ```c
  void R_DMAC0_Create(void)
  {
    (Omitted)
    dmac0_ch0_descriptor0.header = (Omitted)
    _DMAC_DSC_HEADER_WBD_ENABLE (*1)
  }
  
  - **After modification**
  ```
  ```c
  void R_DMAC0_Create(void)
  {
    (Omitted)
    dmac0_ch0_descriptor0.header = (Omitted)
    _DMAC_DSC_HEADER_WBD_DISABLE (*2)
  }
  ```

*(*1)(*2): The codes in e2 studio V4.0.1.007 (Code Generator Plug-in V2.0.0) or earlier and AP4 coding assistance tool for RZ V1.01.0 or earlier are displayed as follows.

  *(1) _DMAC_DSC_HEADER_WRITE_BACK_ENABLE
  *(2) _DMAC_DSC_HEADER_WRITE_BACK_DISABLE

### Check "Auto disable descriptor after transfer".

- **Before modification**
  ```c
  void R_DMAC0_Create(void)
  {
    (Omitted)
    dmac0_ch0_descriptor0.header = (Omitted)
    _DMAC_DSC_HEADER_WBD_DISABLE (*2)
  }
  ```

- **After modification**
  ```c
  void R_DMAC0_Create(void)
  {
    (Omitted)
    dmac0_ch0_descriptor0.header = (Omitted)
    _DMAC_DSC_HEADER_WBD_ENABLE (*1)
  }
  ```

### Uncheck "Auto disable descriptor after transfer".

1.5  Schedule for Fixing the Problem

This problem will be fixed in the next version. (Scheduled to be released in January 2020.)
Revision History

<table>
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<td>1.00</td>
<td>Apr.16.19</td>
<td>-</td>
<td>First edition issued</td>
<td></td>
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