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瑞萨电子公司

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R8C 浮点问题

Trouble

用户在应用使用浮点运算, 反映浮点不能正确运算.

Analyze

检查用户的程序, 用户设定变量如下所示

```
void main(void)
{

    unsigned char spotX1=0, spotY1=0, spotX2=0, spotY2=0;
    float  centerX, centerY, spotW, spotH;
```

由于用户在程序中设定了一些浮点类型的局部变量, 而且在使用中未初始化变量. 在这种情况下, NC30 编译器在处理局部变量时, 如果**变量未初始化**, 是将局部变量分配在堆栈中, 且分配的是同一地址.

```
(float) centerX          (denormalized numbers)    000473        [Auto]
(float) centerY          (denormalized numbers)    000473        [Auto]
(float) spotW            (denormalized numbers)    000473        [Auto]
(float) spotH            (denormalized numbers)    000473        [Auto]
```

Do

针对这一情况, 在设定局部变量时需要对变量进行初始化, 或使用全局变量.

```
void main(void)
{

    unsigned char spotX1=0, spotY1=0, spotX2=0, spotY2=0;
    float  centerX=0.0, centerY=0.0, spotW=0.0, spotH=0.0;
```

这样 NC30 编译器将在内存中给各变量分配具体地址

```
(float) centerX          0.00000000E+000           000473        [Auto]
(float) centerY          0.00000000E+000           00046F        [Auto]
(float) spotW            0.00000000E+000           00046B        [Auto]
(float) spotH            0.00000000E+000           000467        [Auto]
```

Scope

适用于 R8C, M16C, M32C 全系列单片机, 可作 H8, H8S, SH2 等系列的参考.

Renesas Technology (Shanghai) Co., Ltd
Unit 207 AZIA Center, No1233 Lujiazui Ring Road, Pudong District, Shanghai, China
Tel: 021-68880556-320 Fax: 021-68880559 Zip: 200120