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2010年4月1日
瑞萨电子公司

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740 族

ICC740 C 编译器中中断的处理方法

1. 要点

本资料说明在 ICC740 C 编译器中如何处理中断。

2. 说明

在 ICC740 C 编译器中可以把中断处理写成一个 C 语言函数。

本资料说明的应用例子适合下列使用条件：

- 单片机：740 族

3. 设定方法

3.1 方法一

(1) 修改启动文件 `cstartup.s31` 的中断向量表，用中断函数名代替默认的函数名 `init_C`。

中断向量表列出了每个中断的入口地址。

(2) 在 C 语言源程序中用 `interrupt` 把相应的函数声明为中断函数。

[示例 1]：INT0 的中断处理方法

```
File Name    : cstartup.s31 for 740 Family
/*
其他的定义语句
*/
COMMON      INTVEC    ; FFDC - FFFB, FFFC - FFFD
?CSTARTUP_INTVEC
WORD init_C    ; FFDC : BRK
WORD init_C    ; FFDE : AD, Timer1
WORD init_C    ; FFE0 : TimerB
WORD init_C    ; FFE2 : TimerA
WORD init_C    ; FFE4 : TimerX
WORD init_C    ; FFE6 : Compare
WORD init_C    ; FFE8 : Capture 1
WORD init_C    ; FFEA : Capture 0
WORD init_C    ; FFEC : CNTR0
WORD init_C    ; FFEE : Key-on wake-up, UART1 bus collision detection
WORD init_C    ; FFF0 : INT1
WORD INT0_ISR    ; FFF2 : INT0
WORD init_C    ; FFF4 : Serial I/O2 transmit
WORD init_C    ; FFF6 : Serial I/O2 receive
WORD init_C    ; FFF8 : Serial I/O1 transmit
WORD init_C    ; FFFA : Serial I/O1 receive
?CSTARTUP_RESETVEC
WORD init_C    ; FFFC : RESET
ENDMOD init_C
/*
其他的定义语句
*/
```

7542 群的中
断向量表(不
同的单片机
有其对应的
中断向量
表)

```
File Name    : main.c    ; 源程序
Main()
{
/* 函数体 */
}
interrupt void INT0_ISR(void)
{
/* 函数体 */
}
```

3.2 方法二

- (1) 删除启动文件 `cstartup.s31` 的中断向量表，仅预留相应的数据空间。
- (2) 在 C 语言源程序中用 `interrupt`[中断向量偏移地址]把相应的函数声明为中断函数(中断入口地址)。

[示例 2]：INT0 的中断处理方法

```
File Name    : cstartup.s31 for 740 Family
/* Other definition */
COMMON      INTVEC ;
?CSTARTUP_INTVEC
BLKB 20H ; (FFFC-FFDC)
?CSTARTUP_RESETVEC
WORD init_C
ENDMOD init_C
/*
    其他的定义语句
*/
```

中断向量入口地址需要的字节数

```
File Name    : main.c    ; Source program
Main()
{
    /*
        函数体
    */
}
void interrupt [22] INT0_ISR(void)
{
    /*
        函数体
    */
}
```

INT0 入口地址的偏移量 22
(绝对地址: FFDC + 22)

4. 参考文献

硬件手册

7542 群数据手册

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Rev.	发行日	修订内容	
		页	要点
1.00	2006.01.22	—	初版发行
1.01	2008.03.17	4	增加咨询邮箱地址，修改硬件手册名称，删去版本号
		6—7	更新版权声明

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