6

Processor Dependent Information Table

6.1 Introduction

Any highly processor dependent information required to describe a processor to **RTEMS** is provided in the **CPU Dependent Information Table**. This table is not required for all processors supported by **RTEMS**. This chapter describes the contents, if any, for a particular processor type.

6.2 CPU Dependent Information Table

The i960CA version of the **RTEMS CPU Dependent Information Table** contains a single pointer to the i960CA's **Processor Control Block** (PRCB). The PRCB contains pointers to a variety of i960CA data structures and information used to configure the processor at initialization. The PRCB is referenced by **RTEMS** to manipulate the i960CA's **Interrupt Vector Table**. This manipulation allows the automatic vectoring to the **RTEMS** Interrupt Manager when an interrupt occurs. The **C** structure definition is given here:

```
struct cpu_configuration_table {
  void        (*pretasking_hook)( void );
  void        (*predriver_hook)( void );
  void        (*posttasking_hook)( void );
  void        (*idle_task)( void );
  boolean       do_zero_of_workspace;
  unsigned32    interrupt_stack_size;
  unsigned32    extra_system_initialization_stack;
  i960ca_PRCB  *Prcb;
};
```

The contents of the i960CA **Processor Control Block** are discussed in **Intel's i960CA User's Manual**. Structure definitions for the i960CA PRCB and **Control Table** are provided by including the file **rtems.h**.

pretasking_hook is the address of the user provided routine which is invoked once **RTEMS** initialization is complete but before interrupts and tasking are enabled. This field may be **NULL** to indicate that the hook is not utilized.

predriver_hook is the address of the user provided routine which is invoked with tasking enabled immediately before the MPCI and device drivers are initialized. **RTEMS** initialization is complete, interrupts and tasking are enabled, but no device drivers are intialized. This field may be **NULL** to indicate that the hook is not utilized.

postdriver_hook is the address of the user provided routine which is invoked with tasking enabled immediately after the MPCI and device drivers are initialized. **RTEMS** initialization is complete, interrupts and tasking are enabled, and the device drivers are intialized. This field may be **NULL** to indicate that the hook is not utilized.

idle_task is the address of the optional user provided routine which is used as the system's IDLE task. If this field is not NULL, then the **RTEMS** default IDLE task is not used. This field may be **NULL** to indicate that the default IDLE is to be used.

do_zero_of_workspace indicates whether **RTEMS** should zero the Workspace as part of its initialization. If set to **TRUE**, the Workspace is zeroed. Otherwise, it is not.

interrupt_stack_size is the size of the **RTEMS** allocated interrupt stack in bytes. This value must be at least as large as **MINIMUM_STACK_SIZE**.

extra_system_ initialization_stack	is the extra stack space allocated for the **RTEMS** system initialization task in bytes. The system initialization task invokes the MPCI and device driver initialization routines and may require extra stack space on some targets.
Prcb	is the base address of the i960CA's Processor Control Block. It is primarily used by **RTEMS** to install interrupt handlers.