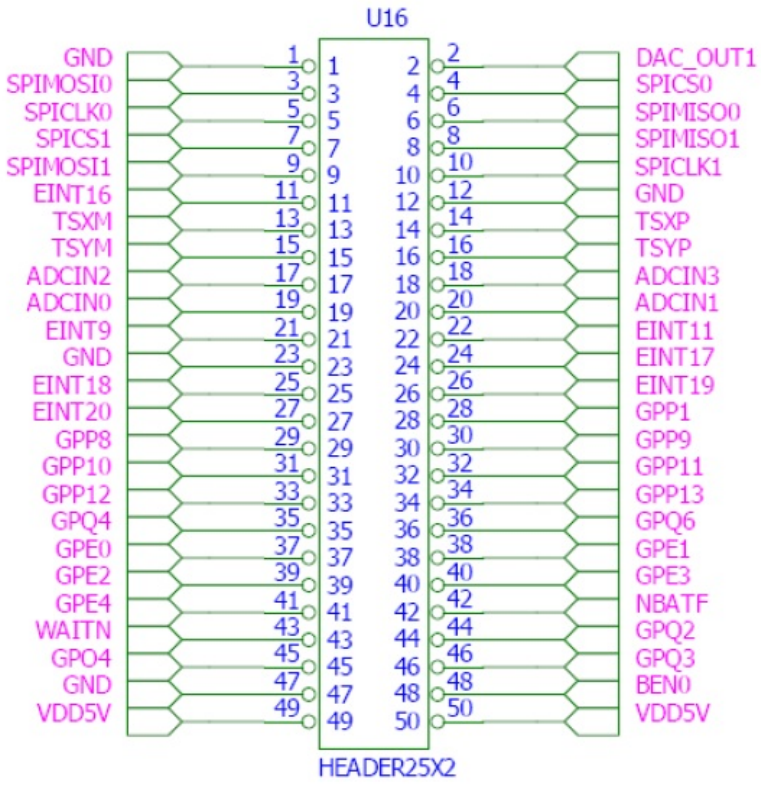
how to know the Interrupt/GPIO number for a specific pin in linux

i'm doing a project in which i need to handle an interrupt in Linux.

the board i'm using is an ARM9Board based on the s3c6410 MCU by Samsung (arm 11 processor) and it has the following I/O interface :



as the image shows i have EINTx pins for external interrupts and GPxx pins as GPIO pins and i don't mind using any of them but i don't have their numbers !

For EINTx pins :

when i call

```
int request_irq(unsigned int irq, void (*handler)(int, struct pt_regs *),
unsigned long flags, const char *device);
```

i need the interrupt number to pass it as the first paramter of the function , so how can i get the irq number for example the EINT16 pin ?

For GPxx pins : the same story as i need the GPIO pin nuumber to pass it to those functions

```
int gpio_request(unsigned gpio, const char *label);
int gpio_direction_input(unsigned gpio);
int gpio_to_irq(unsigned gpio);
```

i.e how do i know the GPIO number for the GPP8 pin ?

i searched the board documents and datasheet but it doesn't contain anything about how to get those numbers , any idea or help on where to look ?

linux embedded arm embedded-linux interrupt

edited Jun 26 '12 at 21:24
embedded.kyle
3,302 1 12 30

asked Jun 26 '12 at 17:17
Abd elrahman Diab
40 1 6

1 Answer

The Embedded Linux you are using should have a GPIO driver that has `#define` statements for the GPIO pins. You can then get the IRQ number of the specific GPIO using something like:

```
irq_num = gpio_to_irq(S3C64XX_GPP(8));
```

The Linux GPIO lib support for that particular chip is available in the the following file:

> linux/arch/arm/mach-s3c6400/include/mach/gpio.h

There you will find all the `#define` statements for the various GPIO.

See the section on GPIO Conventions in their documentation:

https://www.kernel.org/doc/Documentation/gpio/gpio-legacy.txt

edited Jul 7 '14 at 18:06

answered Jun 26 '12 at 17:45
embedded.kyle
3,302 1 12 30

the kernel supplied with the board have a GPIO driver at /drivers/gpio but non of the c files there have a #define for the pins , and i found /include/linux/gpio.g but it contains only the declaration for functions like gpio_request and gpio_to_irq but no #define either – Abd elrahman Diab Jun 26 '12 at 18:06

What board are you using? – embedded.kyle Jun 26 '12 at 18:22

this one arm9board.net/sel/prddetail.aspx?id=365&pid=200 – Abd elrahman Diab Jun 26 '12 at 18:43

1 I've updated my answer with specific information regarding the distro supplied with that board. – embedded.kyle Jun 26 '12 at 19:22

1 @mps It really depends on which Linux distro you are using so you should refer to that distro's documentation. But in general, you should find the `gpio.h` file and that should tell you everything you need to know. I've also updated the link to `gpio.txt` since it was broken. That should also be of some

use to you. – embedded.kyle Jul 7 '14 at 18:08