USB-Host.txt

S3C24XX USB Host support

Introduction

This document details the S3C2410/S3C2440 in-built OHCI USB host support.

Configuration

Enable at least the following kernel options:

menuconfig:

```
 Device Drivers  --->
   USB support  --->
     <*> Support for Host-side USB
     <*>   OHCI HCD support
```

.config:

```
  CONFIG_USB
  CONFIG_USB_OHCI_HCD
```

Once these options are configured, the standard set of USB device drivers can be configured and used.

Board Support

The driver attaches to a platform device, which will need to be added by the board specific support file in linux/arch/arm/mach-s3c2410, such as mach-bast.c or mach-smdk2410.c

The platform device's platform_data field is only needed if the board implements extra power control or over-current monitoring.

The OHCI driver does not ensure the state of the S3C2410's MISCCTRL register, so if both ports are to be used for the host, then it is the board support file's responsibility to ensure that the second port is configured to be connected to the OHCI core.

Platform Data

See arch/arm/mach-s3c2410/include/mach/usb-control.h for the descriptions of the platform device data. An implementation can be found in linux/arch/arm/mach-s3c2410/usb-simtec.c .

The `struct s3c2410_hcd_info` contains a pair of functions

that get called to enable over-current detection, and to
control the port power status.

The ports are numbered 0 and 1.

power_control:

  Called to enable or disable the power on the port.

enable_oc:

  Called to enable or disable the over-current monitoring.
  This should claim or release the resources being used to
  check the power condition on the port, such as an IRQ.

report_oc:

  The OHCI driver fills this field in for the over-current code
  to call when there is a change to the over-current state on
  an port. The ports argument is a bitmask of 1 bit per port,
  with bit X being 1 for an over-current on port X.

  The function s3c2410_usb_report_oc() has been provided to
  ensure this is called correctly.

port[x]:

  This is struct describes each port, 0 or 1. The platform driver
  should set the flags field of each port to S3C_HCDFLG_USED if
  the port is enabled.

Document Author

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