

USB 2.0 Host controller chip for Linux

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- *From:* Steve <stephenry@xxxxxxxxxx>
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Hi,

I have some confusion over the degree of SW/HW interaction in USB Host controllers.

I have an FPGA design which runs Windriver Linux. I would like to add to the PCB a USB 2.0 host controller chip whose sole purpose in life is to perform everything required to get from the PHY to EHCI. I would then like to map the EHCI registers to the Linux kernel; so that I should not have to write a device driver. Linux should handle the majority of the USB protocol's signalling and the chip the majority of the physical layer stuff.

Is the above valid?

It seems, however, that whenever I try and search for such a chip, I either get 1) monolithic peripheral/device chip (that I do not want) 2) Host chips with a PCI interface (which are okay, but I would like one specifically designed with a host interface), 3) Some intermediate chip, either a USB host but without the EHCI interface, or a large and costly microcontroller.

The question I have therefore is that, given my understanding of the problem and assuming it is correct, what chip can I get to fit this role?

Kind regards,

Stephen

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