

Re: Tiny ARM Development

Source: <http://coding.derkeiler.com/Archive/General/comp.arch.embedded/2005-07/msg00934.html>

- *From:* "linnix" <me@xxxxxxxxxxxxxxxxxxxxxx>
 - *Date:* 27 Jul 2005 20:17:04 -0700
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larwe@xxxxxxxxxx wrote:

> Hi,
>
>> etc. Merely reading and writing to I/O ports, which I'm just
>> *assuming* are available on the chip, is proving no readily documented
>> task. I haven't even been able to find a detailed instruction set
>> list.
>
> All I/O is memory mapped, ARM does not have a separate I/O address
> space. While I haven't worked with the 91SAM series (yet) all this
> stuff was adequately documented for the 91R40* series parts.
>
> The instruction set documentation is published by ARM, not Atmel, but a
> copy can be found under AT91 ARM Thumb – Other Documents at
> <http://www.atmel.com/dyn/products/other_docs.asp?family_id=605>
> (ARM7TDMI Technical Reference Manual).
>
>> It simply needs to read ports when an external interrupt is triggered,
>> and output on other ports the rest of the time (with some memory used
>> as a cache in between these operations).

Sounds like hardware FIFOs.

>
> This is an interesting sort of requirement. I'm not sure that ARM was
> necessarily the obvious choice here

Depends on the ARM. AT91SAM7S64 (as quoted by OP) is approx. 30 MIPS
vs. 20 MIPS for Atmega32. This is not a whole lot of performance gain.
AT91RM9200 is 200 MIPS and might make a difference. However, the cost
is also higher.

> – its interrupt latency is not
> fantastic. Have you done actual metrics yet? Are you committed to a
> board layout, or are you experimenting on the EVB before starting the
> layout?

- *Follow-Ups:*
 - ◆ **Re: Tiny ARM Development**
 - ◇ *From:* ken

- *References:*
 - ◆ **Tiny ARM Development**
 - ◇ *From:* Alex McHale
 - ◆ **Re: Tiny ARM Development**
 - ◇ *From:* larwe
 - ◆ **Re: Tiny ARM Development**
 - ◇ *From:* alexmchale@xxxxxxxxxx
 - ◆ **Re: Tiny ARM Development**
 - ◇ *From:* larwe

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