Hochschule Esslingen
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Project Work

ARM9 interrupt latency measurement on an AT91RD9200-EK development board

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Revision History

Revision	Date	Author(s)	Description
1.0	27.06.14	Christian WÃűrz	created
1.1	18.07.15	Vikas Agrawal	Added static ip configuration, cygwin, options for makefile, tftpserver
1.1	30.07.15	Vikas Agrawal	Added functioning TFTP server with BDI2000

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List of Abbreviations

Chapter 1

Task description

The overall task is to investigate and develop a service that allows to measure the latency an interrupt generates. This has to be achieved without external hardware and as accurate as possible with an AT91RD9200-EK development board. The service should be generic and independent in terms of the main functionality. One other point is, that the service ought to create less overhead and not extent the measured interrupt more than necessary. Further more the the measured value has to be converted into a time unit (e.g. μs) and be compensated to represent the real period the interrupt needed without the may influencing measure service. For the system output the values hast to be transmitted by any terms of connection to a host computer, running a database and stores the received values. For better readability it is recommended that the transmitted values are plain text. This allows easier debugging and also a stand alone operation without the running database. To trace back the recorded latencies timestamps should be provided to identify when and maybe under what conditions, excess length in interrupt routine occurred.

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