Soft CPU demo
Altera Nios

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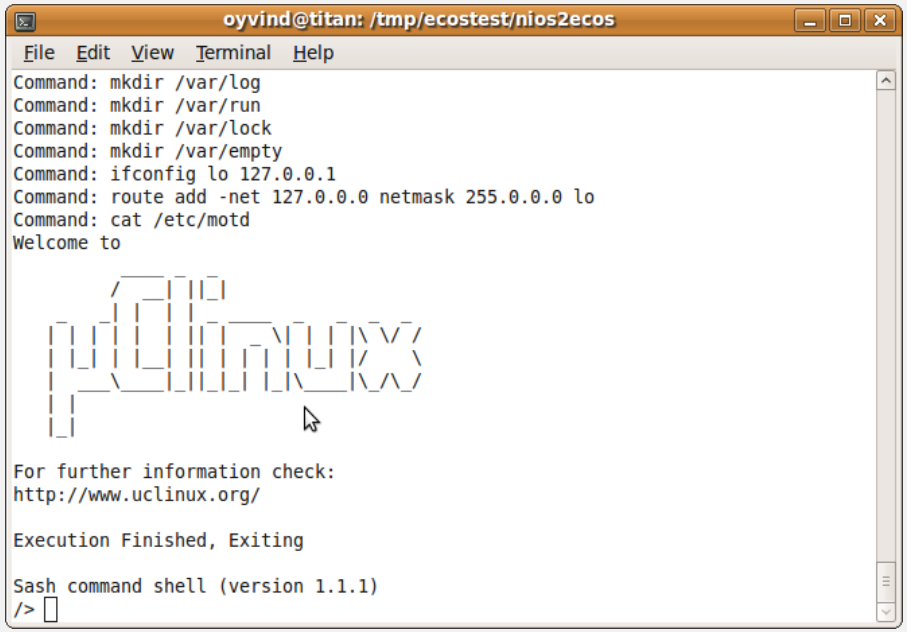
FPGA image

- FPGA tools produced two files
- sof – This file is programmed into the FPGA
- ptf – contains description of peripherals: names, interrupts, memory map, etc.

uCLinux example

- http://opensource.zylin.com/niosuclinux.html
- nios2-configure-sof demo.sof
- nios2-download zImage -r -g



Build Nios uCLinux

- www.nioswiki.com
- make menuconfig
- make vendor_hwselect SYSPTF=<path to your system ptf>
- make
- zImage

eCos example

- Zylin maintains open source eCos HAL
- http://www.nioswiki.com/ecos
- http://www.altera.com/products/ip/processors/nios2/tools/embed-partners/zylin/emb-zylin.html
- http://opensource.zylin.com/niosecos.html

Build eCos hello world

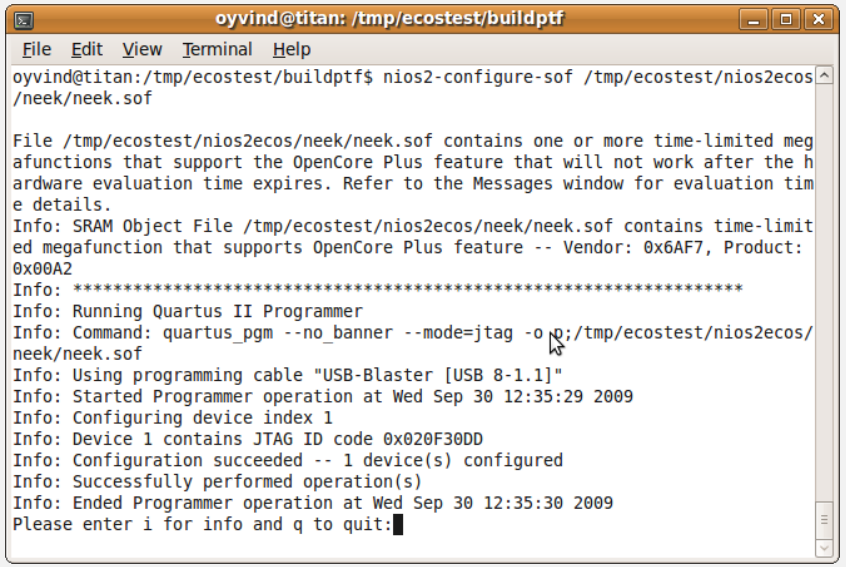
- Install eCos 3.0
- Install Quartus 9.0
- Cygwin and Linux supported
- Zylin uses Ubuntu mostly
- http://opensource.zylin.com/niosecos.html#build

Build eCos hello world

- nios2configgen
  --ptf=/tmp/ecostest/buildptf/cycloneIII_3c25_niosII_standard_sopc.ptf –cpu=cpu
- ecosconfig new nios2_neek default
- ecosconfig tree
- make
- make tests

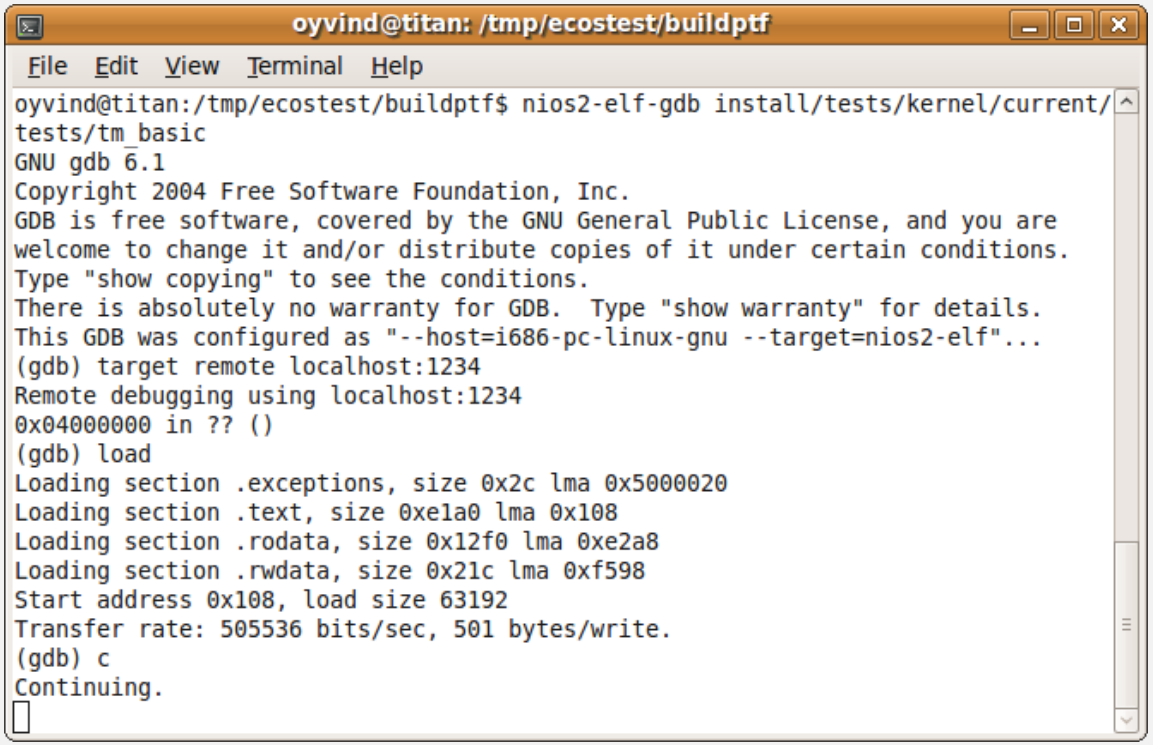
Upload sof to FPGA

- nios2-configure-sof /tmp/ecostest/nios2ecos/neek/neek.sof
- Tethered – without Altera license, then USB cable must remain attached



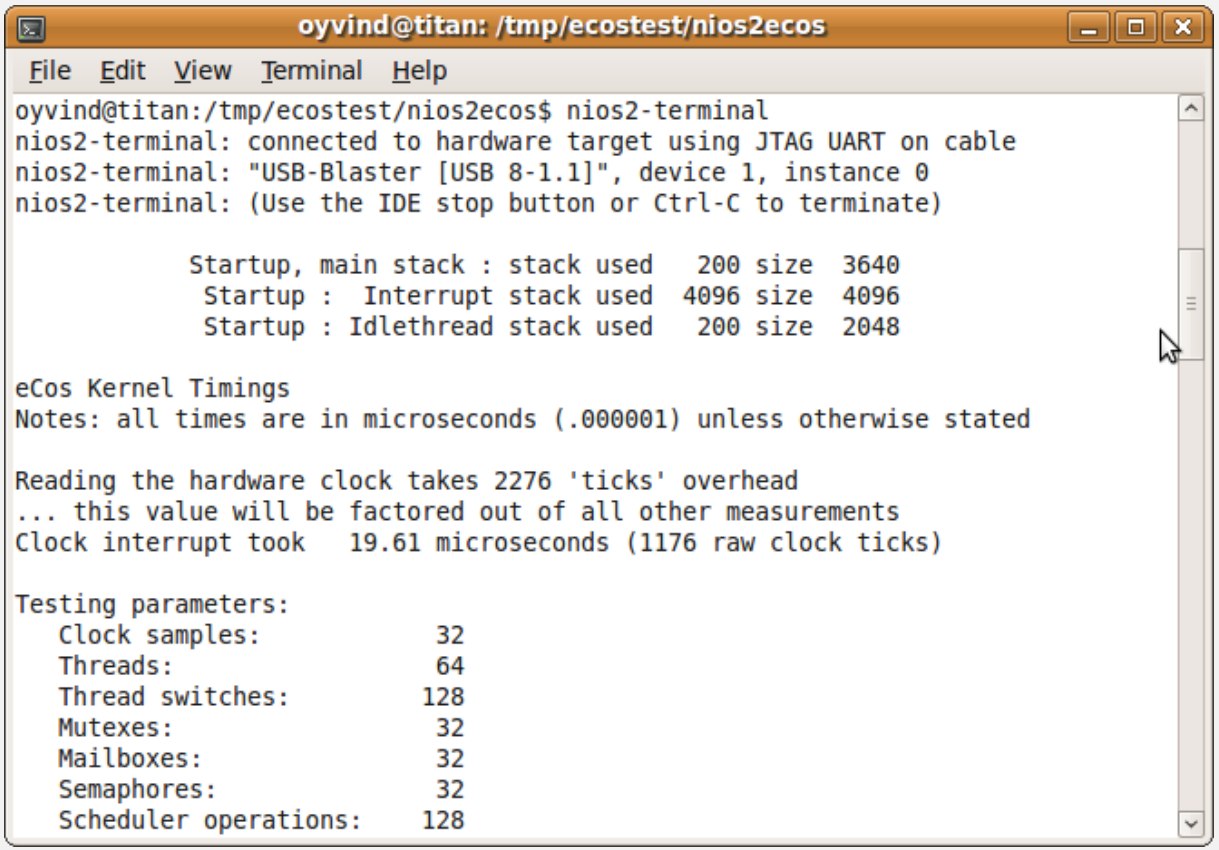
nios2-elf-gdb

- Use your favourite GDB GUI, e.g. CDT/DDD



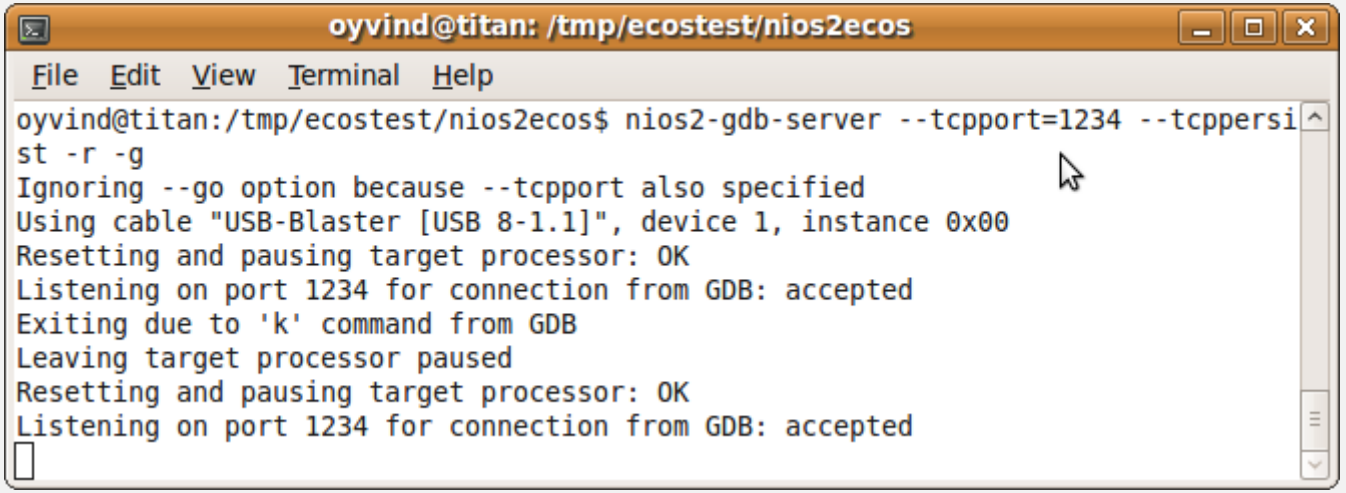
nios2-terminal

- nios2-terminal – JTAG serial port



nios2-gdb-server

- nios2-gdb-server --tcpport=1234 --tcppersist -r -g



Zylin AS
Embedded services

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