AVR Tools for EPOS

Installed tools

All AVR tools are installed in `sv1:/usr/local/avr/` as follows:

- `gcc/`

  gcc 3.3.2 (c,c++), binutils 2.16, avrlibc 1.4

  target modification: no stack reset on main function

  binaries: avr-*

- `gcc.testing/`

  gcc 4.0.2 (c,c++), binutils 2.16, avrlibc 1.4

  target modification: no stack reset on main function

  binaries: avr-*

- `gcc.mature/`

  gcc 3.3.2 (c,c++), binutils 2.14, avrlibc 1.0

  binaries: avr-elf-*

- `tools/`

  avarice (CVS Snapshot from 2005-12-14)

  uisp (TinyOS CVS Checkout on 2005-12-14)

  avrdude 5.0

  avr-gdb 6.4

  avr-insight (CVS Snapshot from 2005-12-14 [gdb 6.4])

Instructions for using the tools:

- Dumping all symbols from *elf* images:

  ```
  # avr-objdump -x app/atmega16_app
  ```

- Disassembling *elf* images:

  ```
  # avr-objdump -S app/atmega16_app
  ```

- Converting *elf* images into *intel hex* for upload:

  ```
  # avr-objcopy -O ihex img/epos.img epos.hex
  ```

- Uploading *intel hex* images with `uisp` (Mica2 motes)

  ```
  # uisp -dprog=mib510 -dpart=ATMEGA128 -dserial=/dev/ttyUSB0 --erase --upload --verify if=epos.hex
  ```

- Uploading *intel hex* images with `avrdude` (STK500 with 2.x firmware)

  ```
  # avrdude -P /dev/ttyUSB0 -c stk500v2 -p m128 -U flash:w:epos.hex
  -C /usr/local/avr/tools/etc/avrdude.conf
  ```

- Uploading *elf* images with `avarice` for debugging (JTAG mkII)

  ```
  # avarice -2 --program --file app/atmega16_app --jtag /dev/ttyUSB0 :4242
  ```

- Opening connection to target in `gdb`

  ```
  # gdb app/atmega16_app
  # (gdb) target remote localhost:4242
  ```

- Inovoking `insight` (`gdb` graphical front-end)

  ```
  # insight app/atmega16_app
  ```