PEEDI Powerful Embedded Ethernet Debug Interface

Multicore Quick Start Guide

Step 1: License installation

- Add the multicore license to the target configuration file that you use under the LICENSE section like this:

```
[LICENSE]
KEY = ARM7_ARM9, 1111-2222-3333-4
KEY = UPDATE_29AUG2006, 5555-6666-7777-8
KEY = ARM_MULTICORE, 9999-1111-2222-3
```

Step 2: Configuring PEEDI

In the target configuration file:

- In the PLATFORM_ARM section find the JTAG_CHAIN parameter and add to it all cores' IR registers' lengths like this:

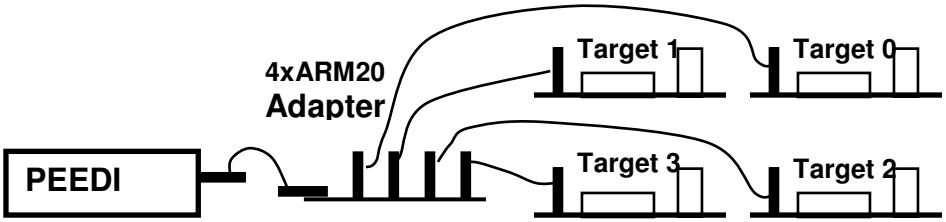
```
[PLATFORM_ARM]
JTAG_CHAIN = 4,4,4,4 ; four cores in the chain,
                     ; each IR is 4 bits long
```

- Describe each core using the incremental COREn_ prefix starting from 0 like this:

```
CORE0 = ARM7TDMI, 0  ; this core is the first TAP
CORE0_STARTUP_MODE = STOP, 300
CORE0_INIT = INIT_CORE0
CORE0_BREAKMODE = soft
CORE0_BREAK_PATTERN = 0xDFFFDFFF
CORE0_FLASH0 = FLASH_CORE0
CORE0_ENDIAN = LITTLE
CORE0_WORKSPACE_ADDR = 0xC00000
CORE0_WORKSPACE_LEN = 0xE00
...
CORE3 = ARM7TDMI, 3 ; this core is the fourth TAP
CORE3_STARTUP_MODE = STOP, 300
CORE3_INIT = INIT_CORE3
CORE3_BREAKMODE = soft
CORE3_BREAK_PATTERN = 0xDFFFDFFF
CORE3_FLASH0 = FLASH_CORE3
CORE3_ENDIAN = LITTLE
CORE3_WORKSPACE_ADDR = 0xC00000
CORE3_WORKSPACE_LEN = 0xE00
```

Step 3: Connecting the targets

- Connect all targets to PEEDI using the PEEDI multicore 4xARM20 adapter provided from Ronetix like this:



WARNING:

All targets must have equal power supply (10% tolerance is permissible). The highest power supply is taken for reference for the PEEDI output schematic, so the JTAG signals will have that value.

WARNING:

You must use as short as possible cables, because the equivalent cable length is the sum of all cables. Even then, you may need to decrease the JTAG clock in the target configuration file.

Step 4: Debugging with GDB/Insight

Now, PEEDI waits on separate consecutive TCP port for incoming gdb debug connection for each target. This allows the targets to be debugged independently from one another. For example you can connect like this:

```
(gdb) target remote 192.168.1.10:2000 // first target
(gdb) target remote 192.168.1.10:2001 // second target
```

Note:

The reset JTAG signal is common for all targets, so if one developer resets his target, all targets will get reset.

Step 5: Using *flash multi* command

Using the **flash multi** CLI command, you can program up to four targets at once, saving huge amounts of time when many boards need to be programmed:

```
peedi> flash multi #0 #1 tftp://192.168.1.1 myfile elf
```

This will program targets 0 and 1 simultaneously.