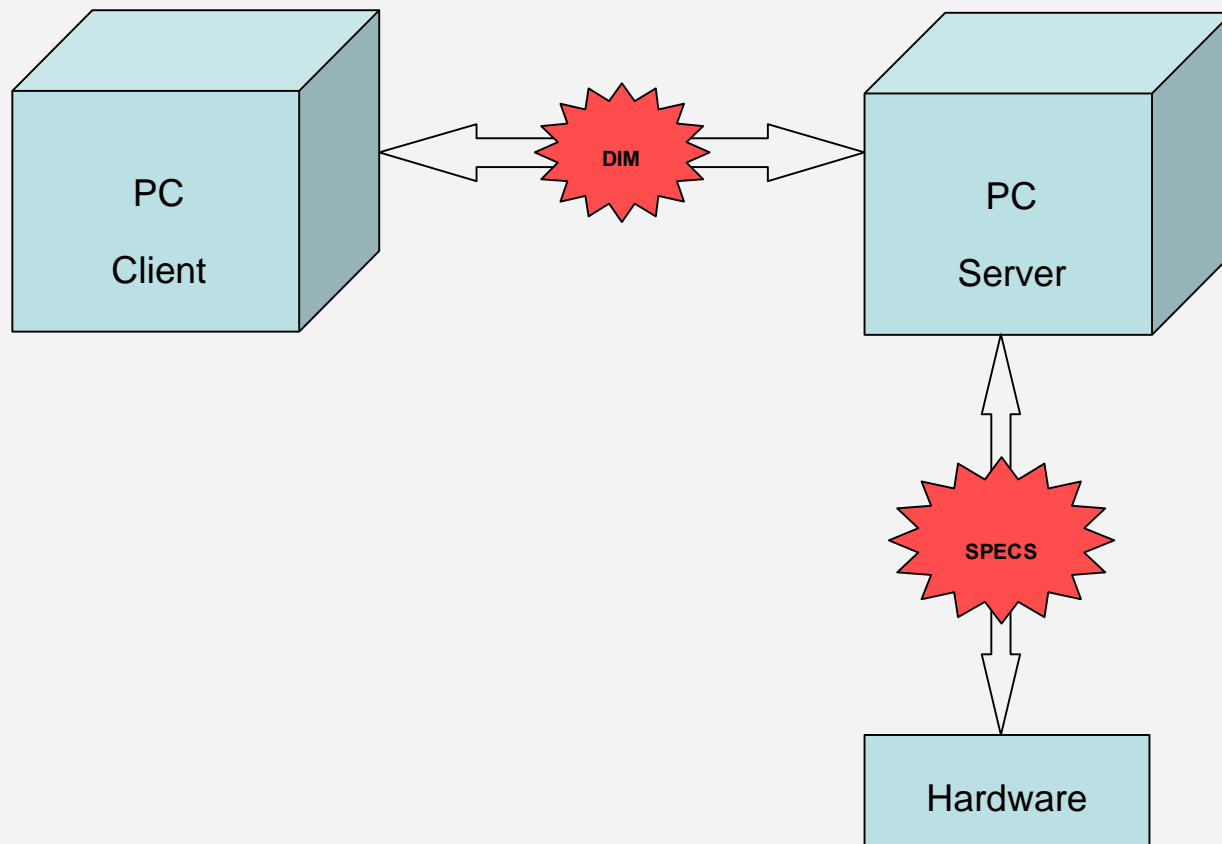




2006/FEB/21

PVSS-SPECS Interface

SYSTEM ARCHITECTURE



PVSS-SPECS Interface

CLIENT & SERVER

The screenshot shows the 'Vision_1: SPECS Client' window with the following details:

- Tabs:** I²C, JTAG, PARALLEL BUS, REGISTER, DCU, ADVANCED.
- Parameters:**
 - SPECS: pcbcecs03
 - Master ID: 02 (PCI: 0 PORT: 2)
 - Slave address: 1
 - Bus: 0
 - Address: 0x40
 - Sub address: (empty)
 - Size (bytes): 3
 - Data in: 414243
 - Data out: (empty)
 - Status: OK (Write)
- Commands:** Reset..., Write, Read, Write/Read.
- Monitoring:**
 - Registers: (Select) ...
 - Refresh: 0 (seconds)
 - Data change
 - Start
- Footer:** [23:18:05] SPECS Client is running. (highlighted in green), v1r5, Close.

The 'Registers Config' dialog box contains:

- Registers:** A list box containing 'myFirstRegister' and 'mySecondRegister'.
- Buttons:** Add, Remove, Close.

The screenshot shows the 'SPECS Server v1r5' console window and an 'Info' dialog box:

- Console:** Shows a log of timestamps and messages, including 'Debug enabled'.
- Info Dialog:** Titled 'Info', it displays the message: 'Create 'mySecondRegister' register with the following parameters:' followed by a form with the following values:
 - SPECS: pcbcecs03
 - Master ID: 13 (PCI: 4 PORT: 1)
 - Slave address: 1
 - PC bus: 0
 - PC address: 0x40
 - Size (bytes): 3
- Buttons:** Yes, No.

PVSS-SPECS Interface

CLIENT (JTAG, PBUS & REGISTER)

The image displays three overlapping screenshots of the PVSS-SPECS Client interface, demonstrating different operational modes: JTAG, Parallel Bus, and Register.

Left Screenshot (JTAG Mode): The 'JTAG' tab is selected. The 'Parameters' section includes:

- SPECS: pclbcecs03
- Master ID: 02 (PCI: 0 PORT: 2)
- Slave address: 1
- Bus: 0
- Size (bits):
- Data in:
- Data out:
- Status: OK (JTAG Reset)

A green status bar at the bottom reads: [23:30:15] SPECS Client is running.

Middle Screenshot (Parallel Bus Mode): The 'PARALLEL BUS' tab is selected. The 'Parameters' section includes:

- SPECS: pclbcecs03
- Master ID: 02 (PCI: 0 PORT: 2)
- Slave address: 1
- Address: 0x40
- Size (words): 1
- Data in: 4142
- Data out:
- Status: OK (Write)

A green status bar at the bottom reads: [23:34:50] SPECS Client is running.

Right Screenshot (Register Mode): The 'REGISTER' tab is selected. The 'Parameters' section includes:

- SPECS: pclbcecs03
- Master ID: 02 (PCI: 0 PORT: 2)
- Slave address: 1
- Registers: DATEPROM (0x8)
- Data in:
- Data out: 0201
- Status: OK (Read)

The 'Commands' section contains buttons for: Reset..., Write, Read, and Write/Read. The 'Monitoring' section includes:

- Registers: (Select)
- Refresh: 0 (seconds)
- Data change
- Start button

A green status bar at the bottom reads: [23:40:45] SPECS Client is running. The version number 'v1r5' is visible in the bottom right corner, and a 'Close' button is located at the bottom right of the window.

PVSS-SPECS Interface

CLIENT (DCU)

QuickTest : SPECS Client

File Panel ?

PC JTAG PARALLEL BUS REGISTER **DCU** ADVANCED

Parameters

SPECS: pclbcecs03
Master ID: 02 (PCI: 0 PORT: 2)
Slave address: 1
Address: 0x0
Channels: IA7 (Temperature)
Status:

Commands

Reset...
DCU Reset
Initialize
Set Mode...
Read Mode
Acquire

Register Access

Registers: CREG (0x0)
Data in:
Data out:
Write Read

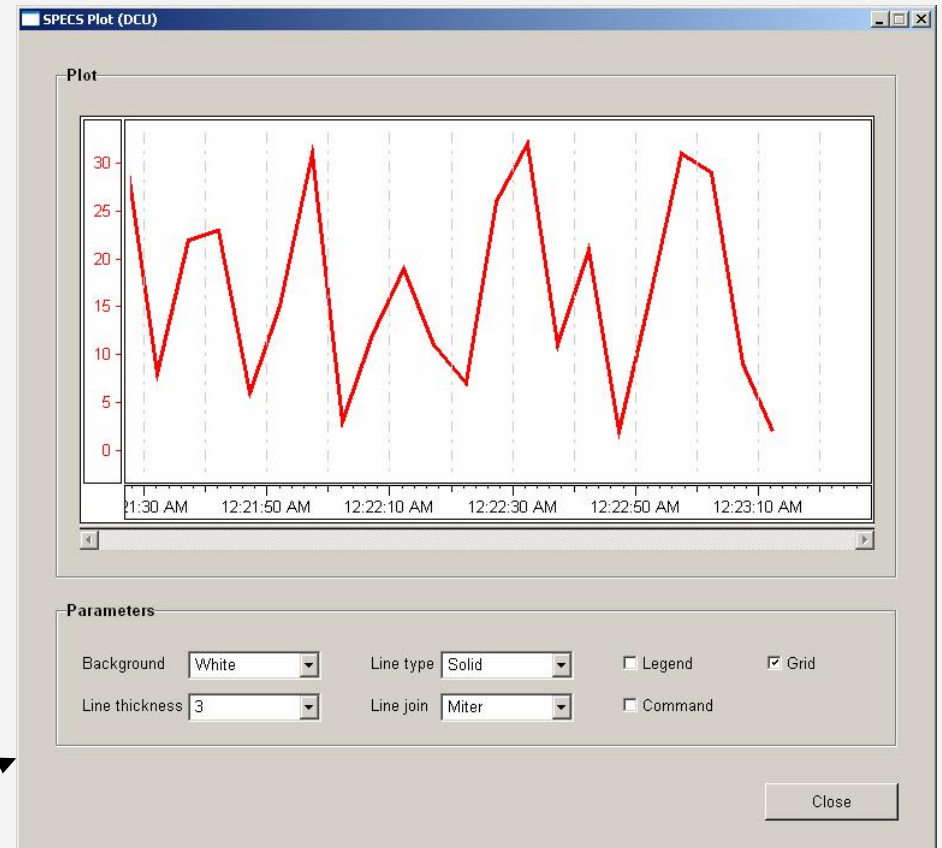
Monitoring

Registers: myRegister
Refresh: 5 (seconds)
 Data change: Red
Start

v1r5

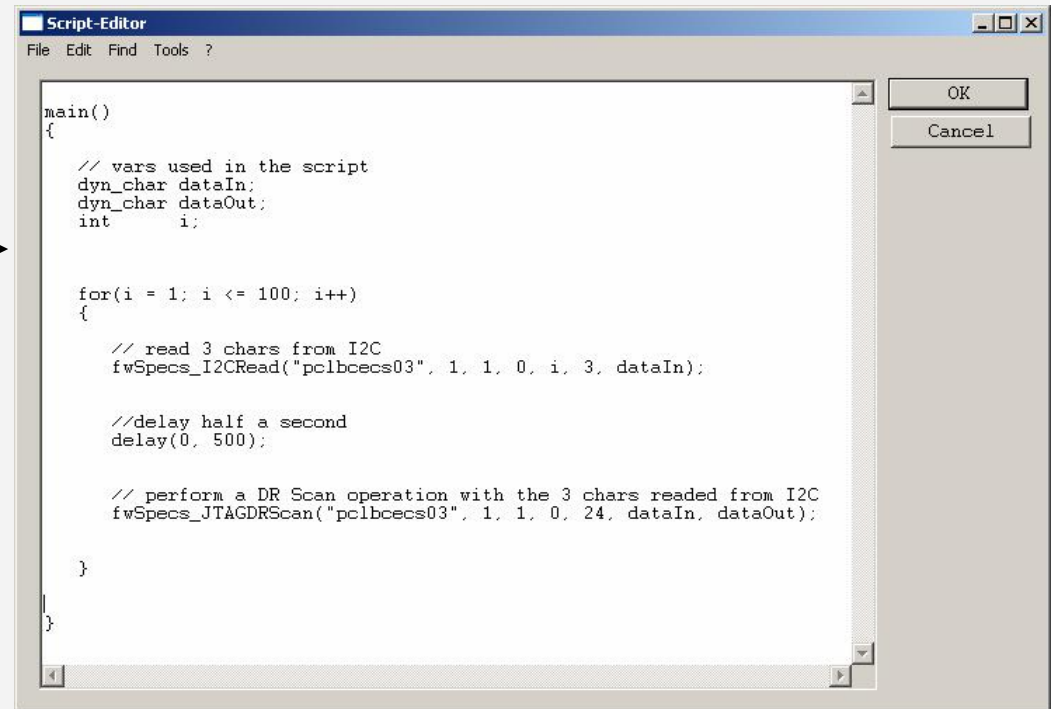
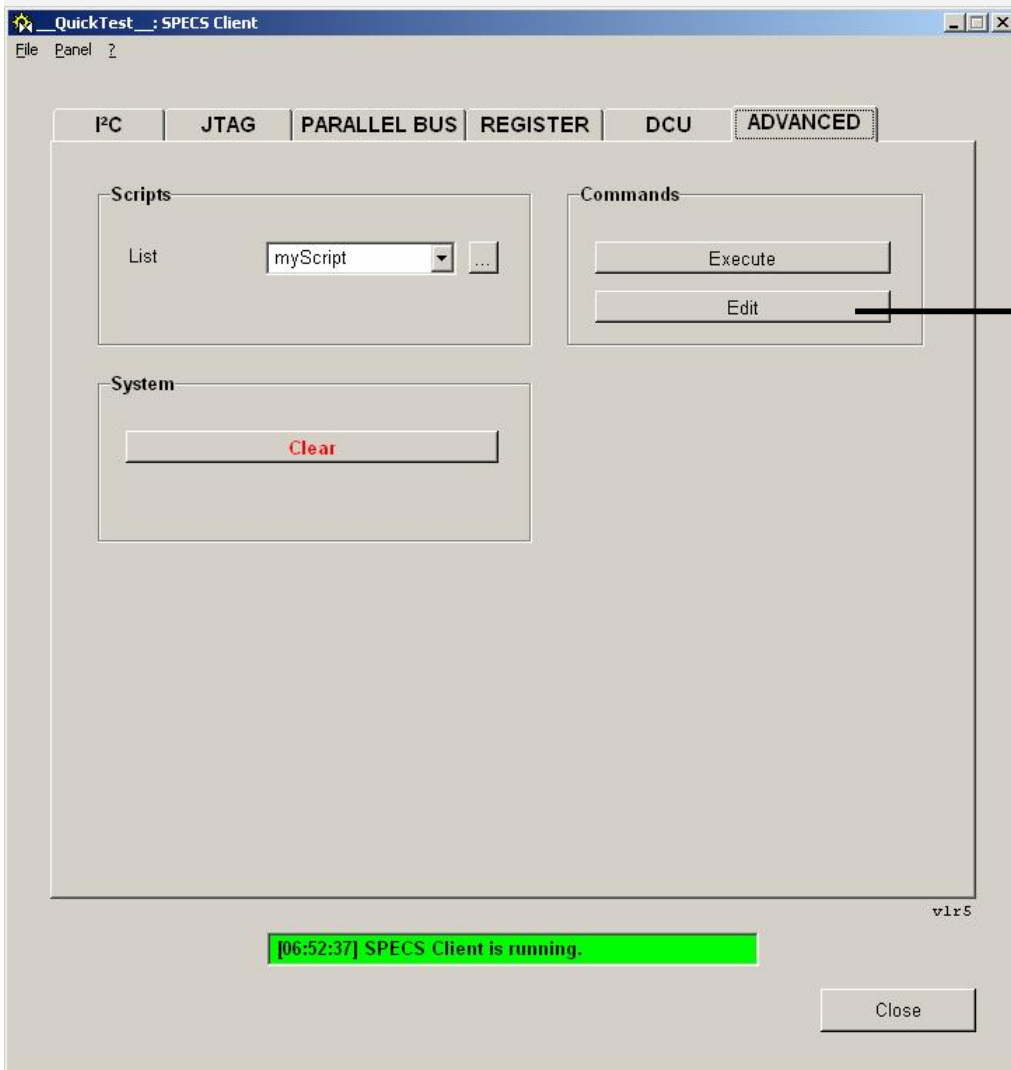
[00:30:49] SPECS Client is running.

Close



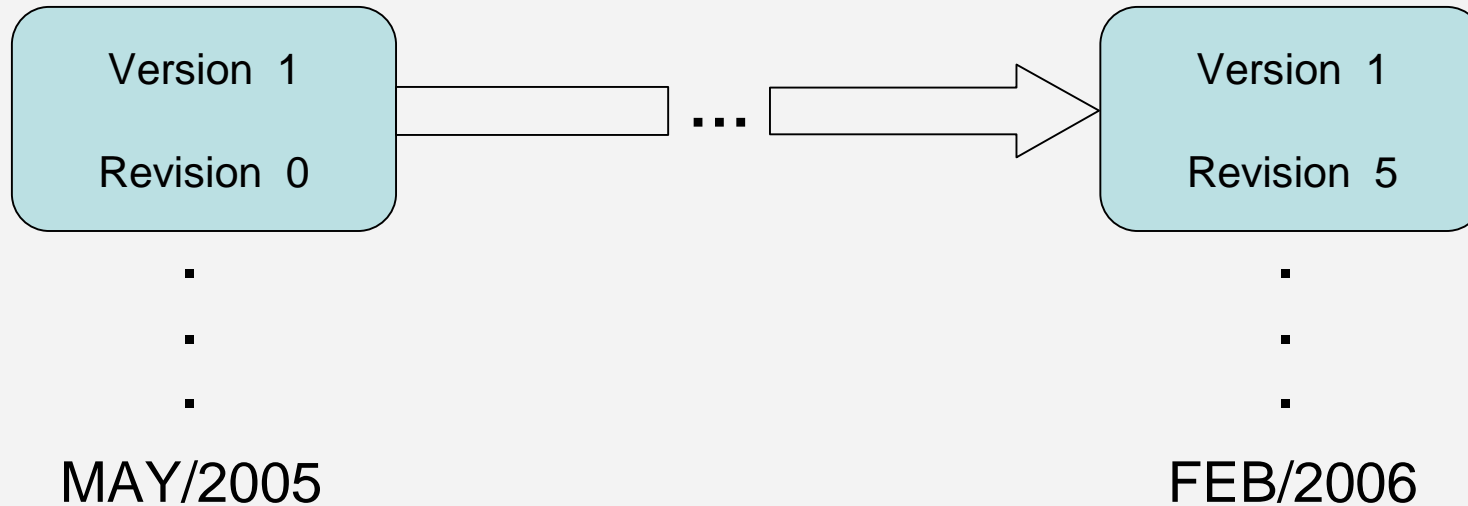
PVSS-SPECS Interface

CLIENT (ADVANCED)



PVSS-SPECS Interface

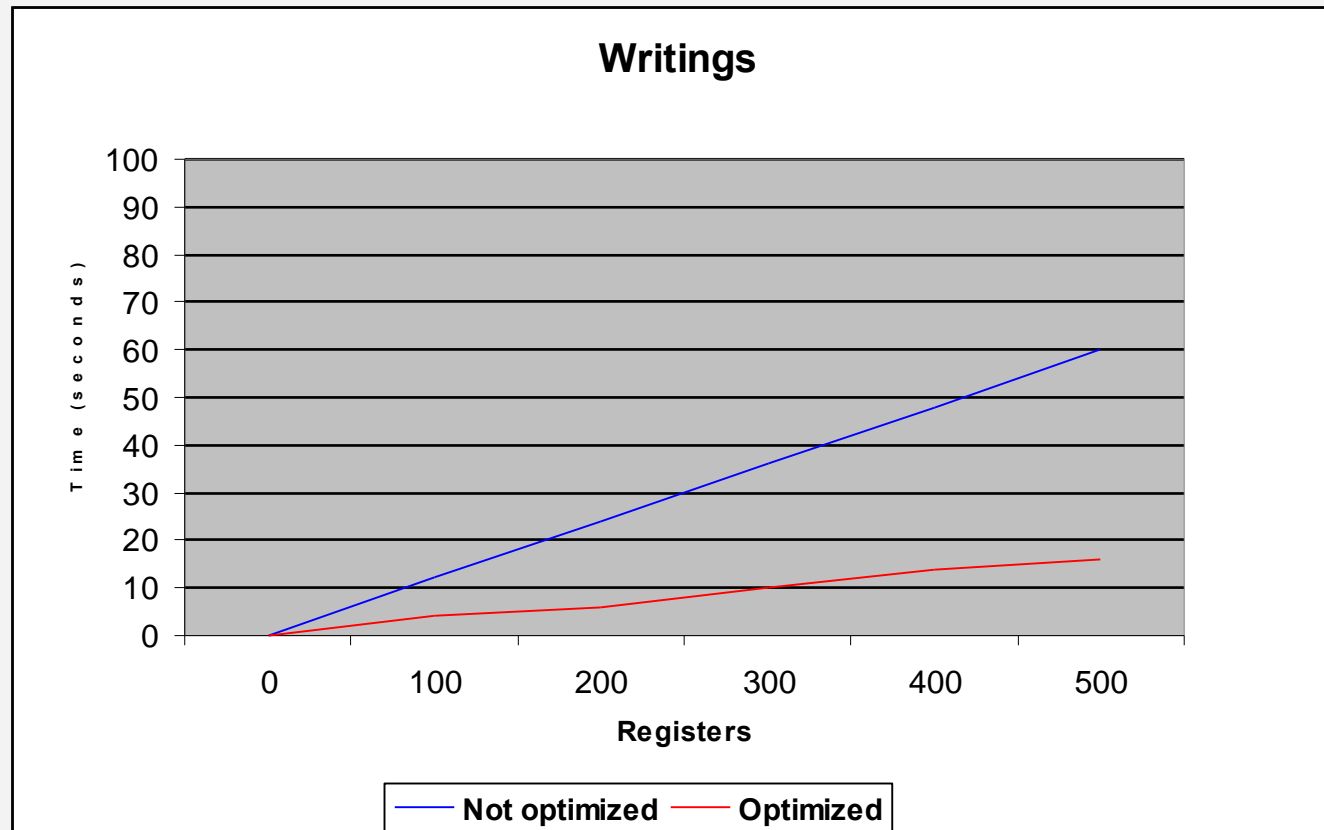
EVOLUTION



- Stable (thanks to users feedback)
- Compatible with the FwHw (**F**rame**W**ork **H**ard**W**are) Tool
- Optimized

PVSS-SPECS Interface

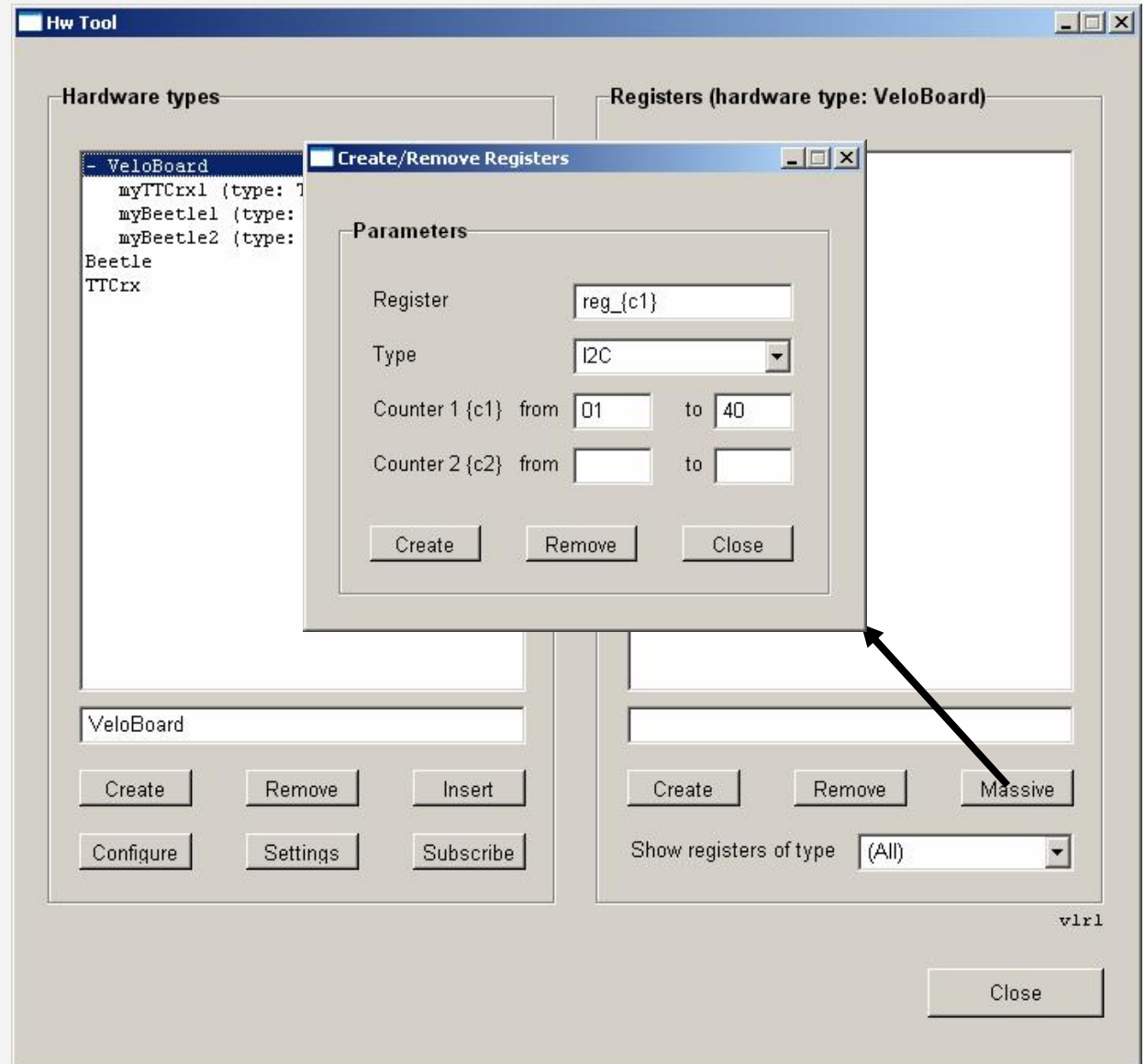
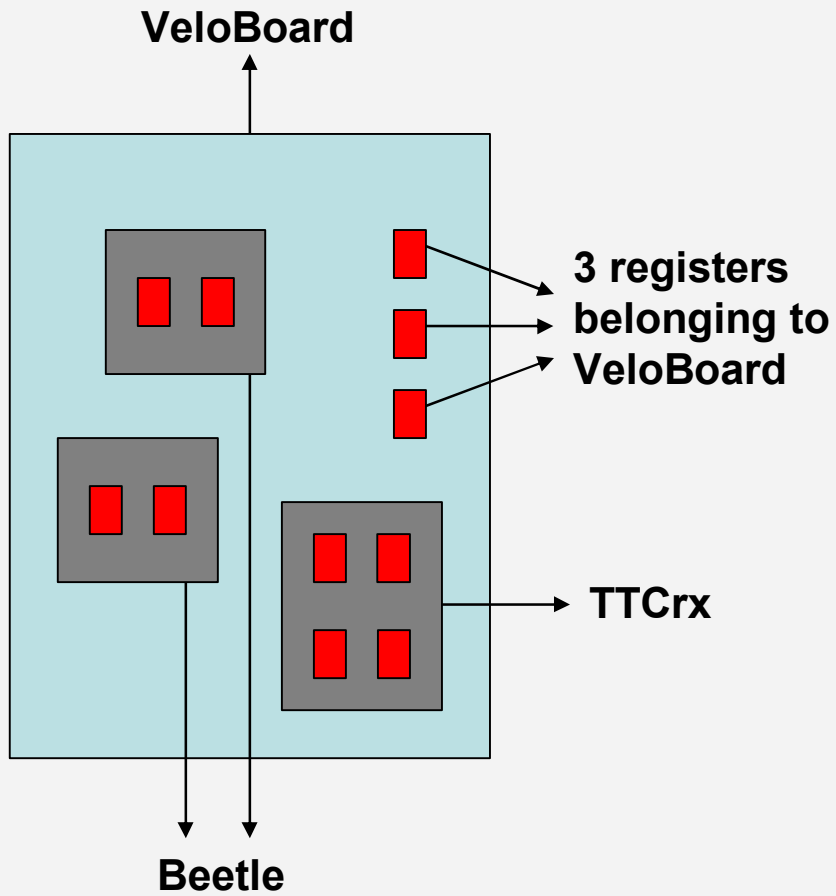
EVOLUTION (OPTIMIZATION)



Test performed in a PC Pentium 4 @ 1.6 GHz with 512 MB RAM, running Windows XP.

FwHw Tool

MAIN INTERFACE



Hardware (type: VeloBoard)

```
myVeloBoard1  
myTTCrx1 (type: TTCrx)  
myBeetle1 (type: Beetle)  
myBeetle2 (type: Beetle)
```

myVeloBoard1

Common settings (hardware: myVeloBoard1)

PC
Master ID
Slave Address
I²C Bus

Registers (hardware: myVeloBoard1)

```
reg1 (type: I2C)  
reg2 (type: I2C)  
reg3 (type: I2C)
```

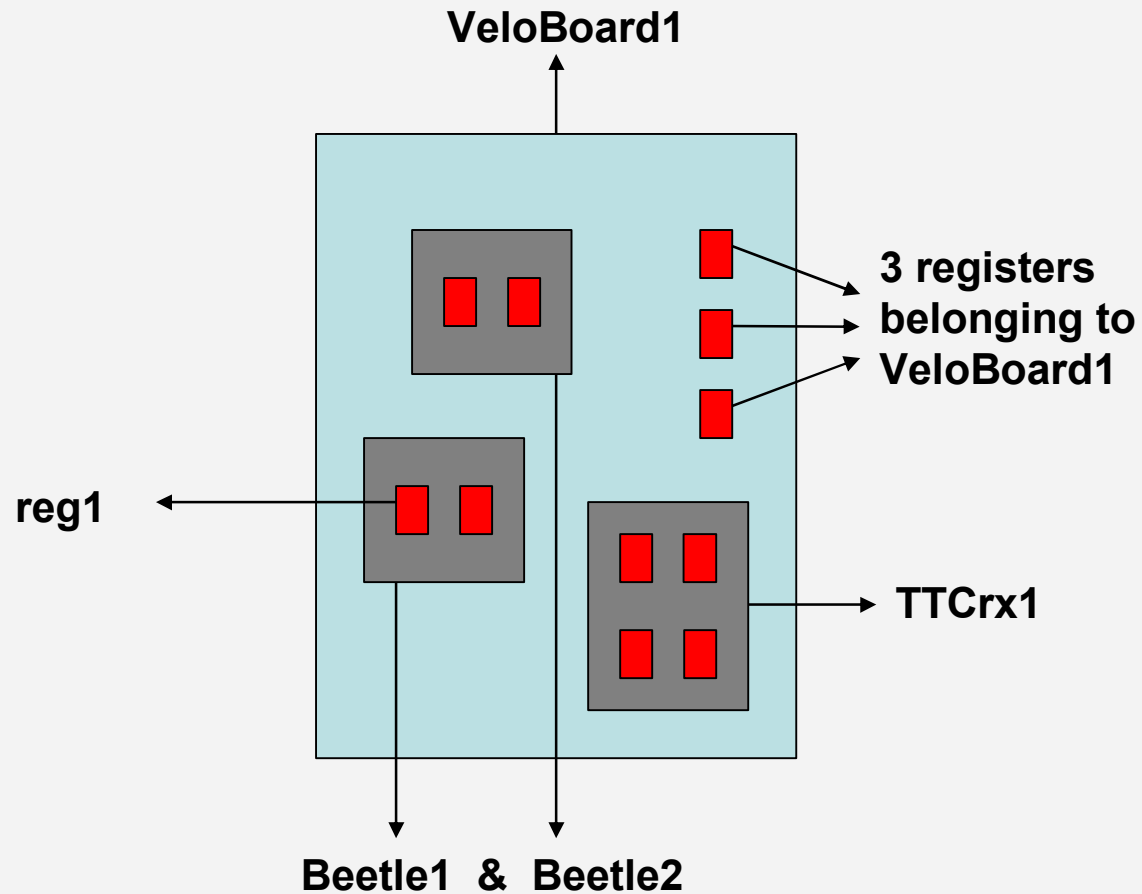
Show registers of type

Specific settings (register: reg1)

I²C address
I²C sub address
Size (bytes)
Refresh rate (seconds)

FwHw Tool

INTEGRATION



```
fwSpecs_write("VeloBoard1.Beatle1.reg1", data);
```

FwHw Tool

NEAR FUTURE

- Creation of a tutorial on how to use the tool
- Compatibility with the PVSS-CCPC Interface
- Improvements based on users request

PVSS-SPECS Interface & FwHw Tool

WEBSITES

- http://lhcb-online.web.cern.ch/lhcb-online/ecs/PVSS_SPECS/default.html
- <http://lhcb-online.web.cern.ch/lhcb-online/ecs/FWHW/default.html>

