Installing the power and temperature logger

Stefan Schokker

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1 Setup

To continue where this project has left of, internet is definitely required. We use a hotspot to do everything that required an internet connection.

The cluster also needs to be setup correctly. Make sure all the power connectors from the black PCB's are connected to the correct Raspberry Pi's. We labelled the Pi's from bottom to top: 0 - 3, with the highest up one being the "g" pi, or Grafana pi. In our setup we conected them to the PCB as follows:

Address	Pi
0x40	0
0x41	1
0x42	2
0x43	3
0x44	G

With the addresses being on the following places:
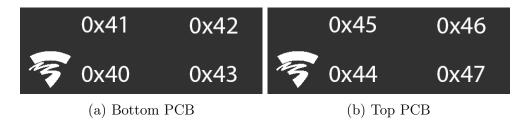

(a) Bottom PCB   (b) Top PCB

Figure 1: PCB INA connector layout, following page 18 of `http://www.ti.com/lit/ds/symlink/ina260.pdf`

After that, make sure every Pi has it's own ethernet connection to the switch. If everything is setup correctly, it should work with the provided settings file "pis.xml" in the ina260 folder, the file will be required when starting the logger.

NOTE:

- In the current release of Debian Buster, the Pi picks only one of two interfaces (WiFi or Ethernet). Keep this in mind when trying to connect the Pi's to your hotspot.

Now you can make sure the Pi is authorized to access the HvA gitlab servers with an account.

The last step for setup, also the most essential for running, is to add all the Raspberry Pi's that you want to measure to your `/etc/hosts` file. For example, to add `raspberrypi-0`, you would write

`0.0.0.0 raspberrypi-0.local`

Where `0.0.0.0` has to be the actual IP address associated with the hostname. We have not been able to find out why this is necessary, but it seems that the logging programme is not able to do a reverse DNS lookup on it's own. r

2 Installation

To install the logger, make sure you have the data logger pi setup in your ansible hosts file. In our case this file was located in `/etc/ansible/hosts` and contained the following

lines:

```
[sgs]
raspberrypi-g.local ansible_user=pi
```

This means that you can run the playbook file `docs/installG.yaml` with the following command: `ansible-playbook docs/installG.yaml -l sgs`.

3   Running

To run the logger, you can now execute `powermonitoring/ina260/./ina260 -c pis.xml -d /home/pi/od`