My SamKnows probe just installed

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https://www.bortzmeyer.org/samknows.html

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I just received and installed my SamKnows <http://www.samknows.eu/> box, currently distributed in many households in Europe, to measure Internet access performance and characteristics.

This measurement program is driven by the European Commission. There are many details in the online FAQs <http://www.samknows.eu/index.php/en/faq>.

The probe (named "Whitebox") is much larger than the RIPE Atlas <http://atlas.ripe.net/>. Here is the device : The Terms of Use (which I do not find on the public part of the Web site) forbid me to give public information about the SamKnows box (without a prior written authorization) but I decided I can at least publish the picture. Once connected to the local network, it starts active measurements to various points on the Internet and reports them to its controller.

In theory, the wired machines in my home should be connected to the SamKnows box, not to my router (a Freebox). This allows the probe to monitor if there is actual traffic and to postpone measurements in order not to interfere. But this raises technical issues (I did not check but I'm not sure that the probe has Gigabit Ethernet ports) and of course big privacy issues. So, in the mean time, I just connected the probe to the router, side by side with my machines.

arpwatch told me the IP address of the Whitebox. Checking with nmap, the machine seems to have only one port opened :

```
% nmap 192.168.2.30

Starting Nmap 5.00 ( http://nmap.org ) at 2012-02-17 14:19 CET
Interesting ports on 192.168.2.30:
Not shown: 999 closed ports
PORT     STATE SERVICE
2222/tcp open  unknown
```

A SSH server runs on this port but the user has no access :

```
% telnet 192.168.2.30 2222
Trying 192.168.2.30...
Connected to 192.168.2.30.
Escape character is '^]'.
SSH-2.0-dropbear_0.53.1
```

A few hours after, I received the identifiers required to see the result of the measurements by "my" probe. There is a dashboard on the Web where the results of the measurements are displayed (the measurements themselves are described in detail in a paper <http://www.samknows.com/broadband/uploads/Methodology_White_Paper_20111206.pdf>). Consistent with the very closed nature of the SamKnows box, the images are only readable if you use the proprietary Flash software. Otherwise, you get just rows of raw data, for instance, for the DNS resolver response time :

```
Date / Minimum (Ms) / Maximum (Ms) / Average (Ms) / Number of Tests

2012-02-17 13:00:00     22.43   24.52   23.48   4
2012-02-17 12:00:00     22.42   24.67   23.23   4
2012-02-17 11:00:00     22.72   23.97   23.30   4
2012-02-17 10:00:00     22.88   24.37   23.81   4
2012-02-17 09:00:00     22.35   24.17   23.24   4
...
```

Even if you accept to install Flash, the right-click function "Save image locally" does not work at all (from searching the Web, it seems a knows bug in the library, which noone fixed). So, to show you pictures, I had to take a screenshot :

You can see here the downstream throughput of my connection at home, for the last nine months. Note the big decrease in September.

Its software is apparently built over OpenWrt but the entire source code is unfortunately not available (the Atlas has the same limitation), only a part of it <https://files.samknows.com/~gpl/>. The box is closed and the Terms of Use prevent any tinkering with it.

Damien Wyart examined the question more closely and reports : "the box seems based on TP-Link machines, tl-wr741nd <http://wiki.openwrt.org/toh/tp-link/tl-wr741nd> and wr1043nd <http://wiki.openwrt.org/toh/tp-link/tl-wr1043nd>. These two boxes work fine with Open-Wrt".