Measuring the Internet with RIPE Atlas probes

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La Paz, 27 october 2018

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- Can people see my server from every place?

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- https://atlas.ripe.net/

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- Can do the same tests as ordinary probes,
- Can also be used as **target** for measurements.

Rationales

- Hardware solution $\longrightarrow$ total control (unlike the MS-Windows machine full of malware).

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- Centralized to allow access control and various limits. (Atlas must not be used as an evil botnet.)

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- Allows **reproducible** experiences.

API with curl

```
% curl --dump-header - -H "Content-Type: application/json" \
      -H "Accept: application/json" -X POST -d '{
"definitions": [
  { "description": "Test from La Paz", "target": "whois.nic.fr",
    "af": 6, "type": "ping"}
],
"probes": [
  { "type": "area", "value": "WW", "requested": 5 }
],
"is_oneoff": true
}'  https://atlas.ripe.net/api/v2/measurements/\?key=SECRETKEY

HTTP/1.1 201 Created
Server: nginx/1.12.2
Content-Type: application/json
Content-Length: 27

{"measurements":[16637579]}
```

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- ntp

Official command-line client

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- You can install separately Cousteau (the Python library) or
  Sagan (the analysis library)

Let's practice

1. Create an account
   https://access.ripe.net/registration
2. Tell me the address so I can send you credits
3. Create an API key https://atlas.ripe.net/keys/
4. Run

Magellan installation

```
sudo aptitude install python-dev libffi-dev libssl-dev python-pip
sudo pip install ripe.atlas.tools
ripe-atlas configure --init
[edit ~/.config/ripe-atlas-tools/rc to add the key]
```

Then :

```
% ripe-atlas measure ping --probes 3 --from-country mx \
    --target pit.bo
48 bytes from probe #6398  200.94.182.170  to 190.129.78.154 (190.129.7
        ttl=45 times:181.646, 181.247, 181.291,
48 bytes from probe #6406  200.94.183.170  to 190.129.78.154 (190.129.7
        ttl=45 times:135.277, 135.526, 134.982,
48 bytes from probe #27558 187.161.190.179 to 190.129.78.154 (190.129.7
        ttl=45 times:134.254, 134.356, 136.529,
```

Non-official clients

https://framagit.org/bortzmeyer/blaeu

```
sudo aptitude install python3-pip python3-openssl python3-dnspython \
                      python3-cymruwhois
sudo pip3 install blaeu
```

https://labs.ripe.net/Members/stephane_bortzmeyer/
creating-ripe-atlas-one-off-measurements-with-blaeu

Then :

```
% blaeu-reach --requested 5 --country MA 80.67.169.72
4 probes reported
Test #16637671 done at 2018-10-23T15:18:20Z
Tests: 12 successful tests (100.0 %), 0 errors (0.0 %), 0 timeouts (0.0
    average RTT: 66 ms
```