

RIPE Atlas

Continuing Development

Ann Barcomb
abarcomb@ripe.net



What is Atlas

- Next-generation active measurement network
- Geographically spread vantage points
- Small, easily-deployable probes
 - USB powered
 - Hardwired trust material
 - No open ports
 - Don't listen to local traffic
 - Firmware can be remotely updated

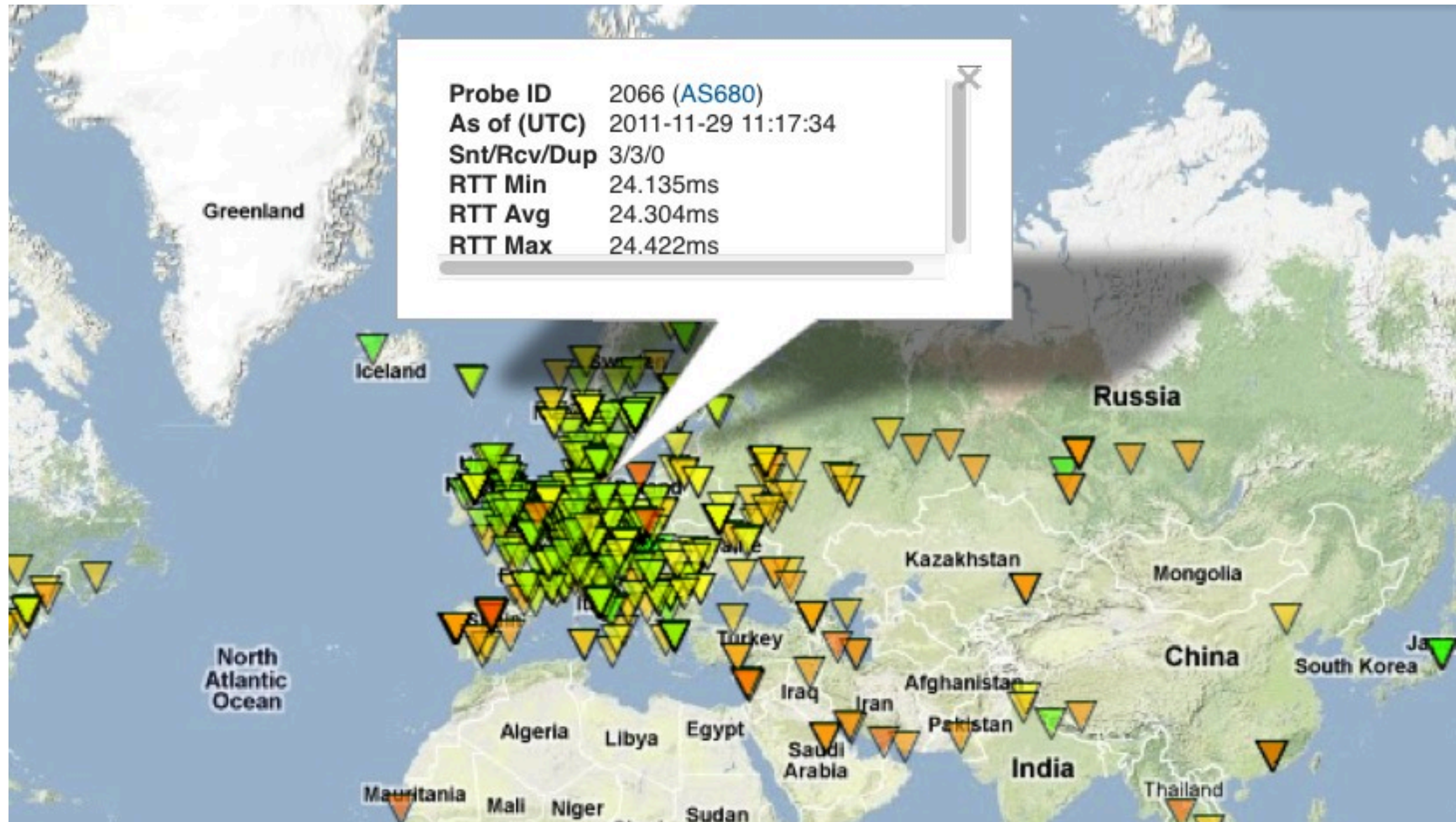


Benefits

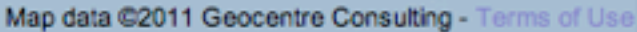
- More vantage points
- Continuous measurements
- Cost-effective compared to individual efforts
- Independent source
 - Governments: comparative data about connectivity
 - LIRs: detect network abnormalities, optimise
 - Researchers: long baseline for trend analysis
 - Community: new tools based on aggregated data, situational awareness

Maps

RTT to Fixed Destinations

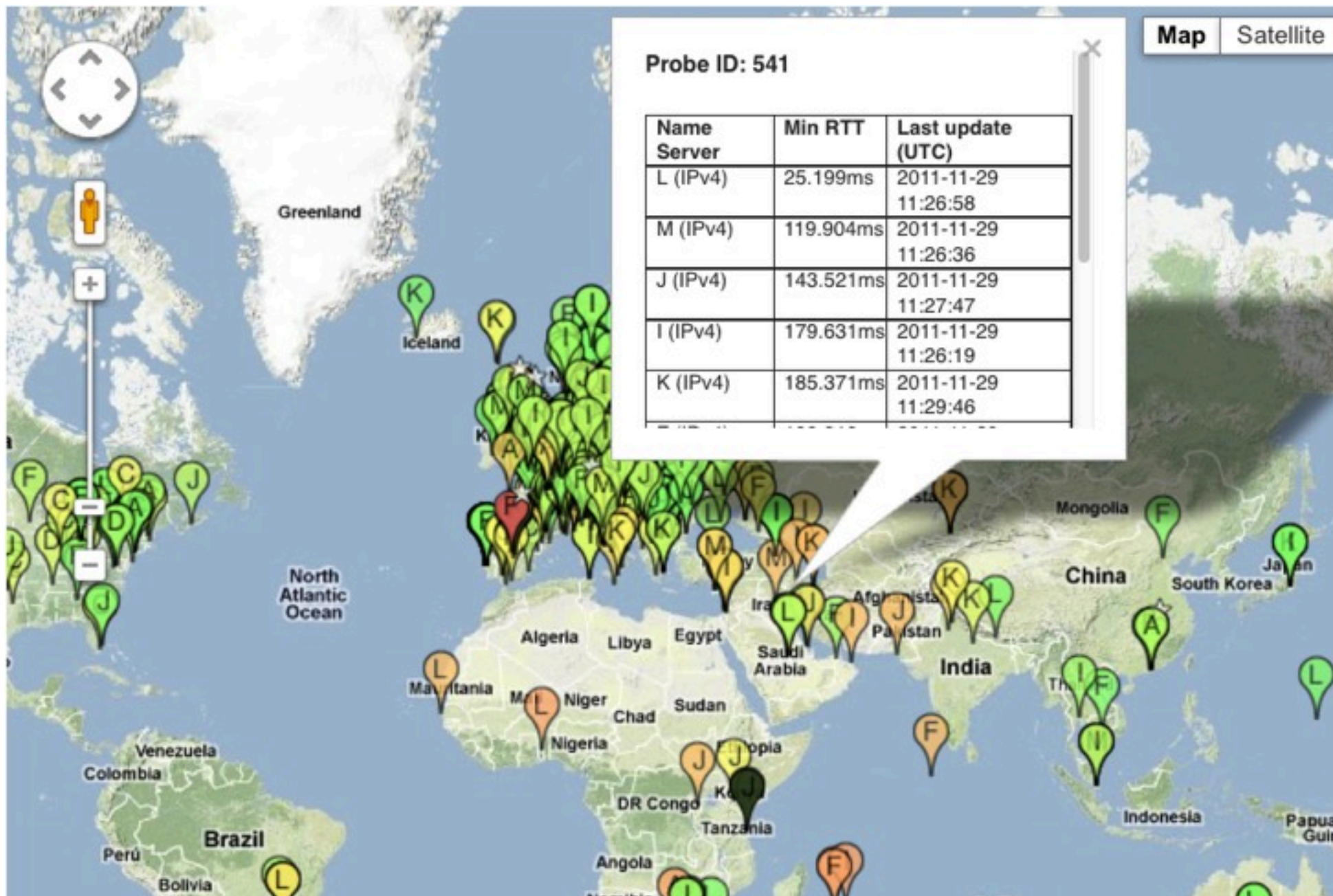


DNS Anycast Check (c-root)



Maps

Comparative DNS Root RTT



User Defined Measurements (UDM) Strategy

- Start with a small set of variables
- Enable features over time
- Allow more resource usage over time
- Add measurement types based on demand

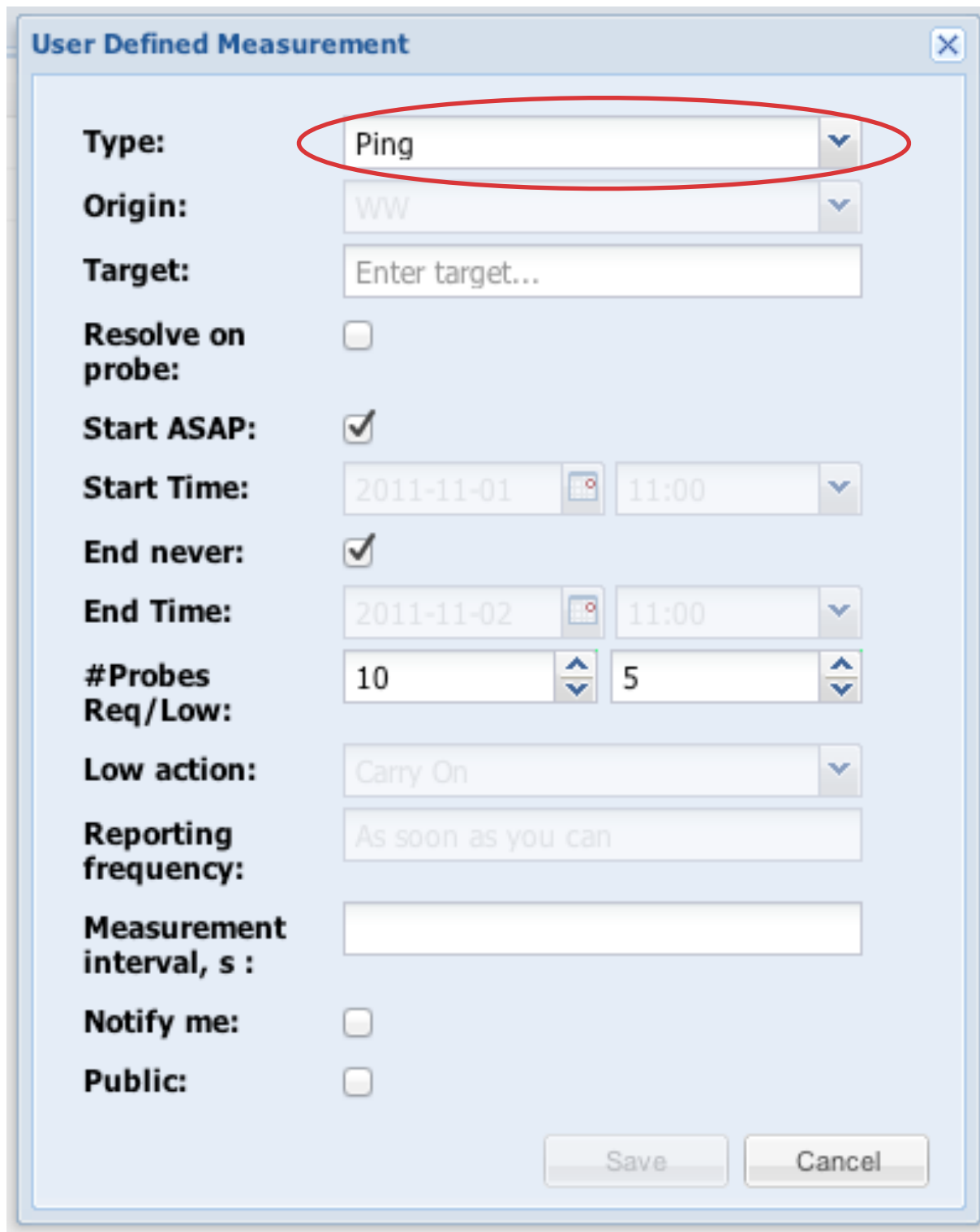


UDM Implementation



- Tied to credit system
- Centralised scheduling
- Consideration for host's requirements
- In beta testing
 - Promising results

UDM (beta)



User Defined Measurement

Type: Ping

Origin: WW

Target: Enter target...

Resolve on probe: ☐

Start ASAP: ☒

Start Time: 2011-11-01 11:00

End never: ☒

End Time: 2011-11-02 11:00

#Probes 10 **Req/Low:** 5

Low action: Carry On

Reporting frequency: As soon as you can

Measurement interval, s :

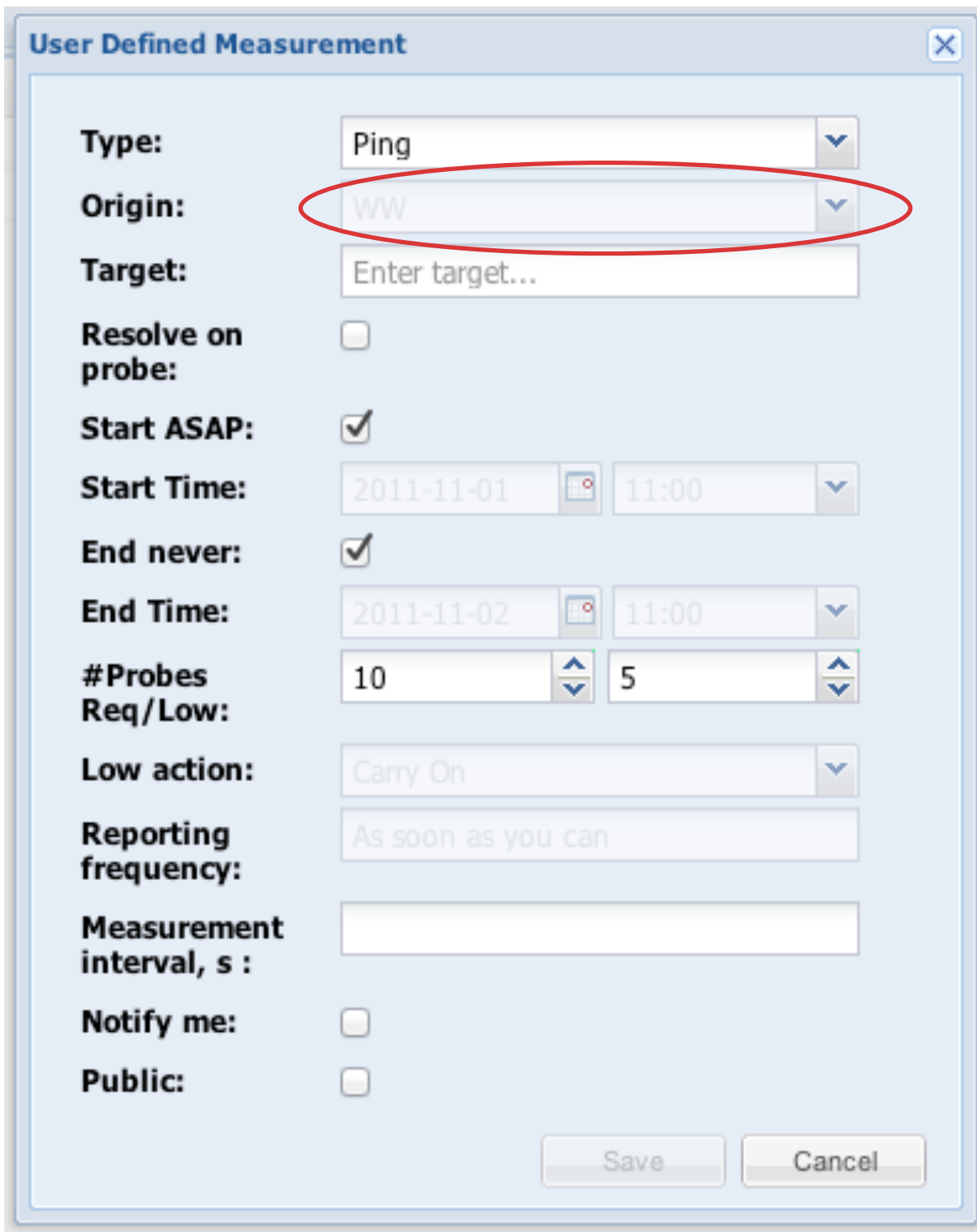
Notify me: ☐

Public: ☐

Save Cancel

- Currently:
 - Ping (v4/v6)
 - Traceroute (v4/v6)
- Upcoming:
 - DNS query

UDM (beta)



User Defined Measurement

Type: Ping

Origin: WW

Target: Enter target...

Resolve on probe: ☐

Start ASAP: ☒

Start Time: 2011-11-01 11:00

End never: ☒

End Time: 2011-11-02 11:00

#Probes: 10

Req/Low: 5

Low action: Carry On

Reporting frequency: As soon as you can

Measurement interval, s:

Notify me: ☐

Public: ☐

Save Cancel

- Currently:
 - Worldwide
- Upcoming:
 - Region
 - Country
 - AS
 - Prefix
 - Probe

UDM (beta)

User Defined Measurement

Type: Ping

Origin: WW

Target: Enter target...

Resolve on probe: ☐

Start ASAP: ☒

Start Time: 2011-11-01 11:00

End never: ☒

End Time: 2011-11-02 11:00

#Probes Req/Low: 10 5

Low action: Carry On

Reporting frequency: As soon as you can

Measurement interval, s :

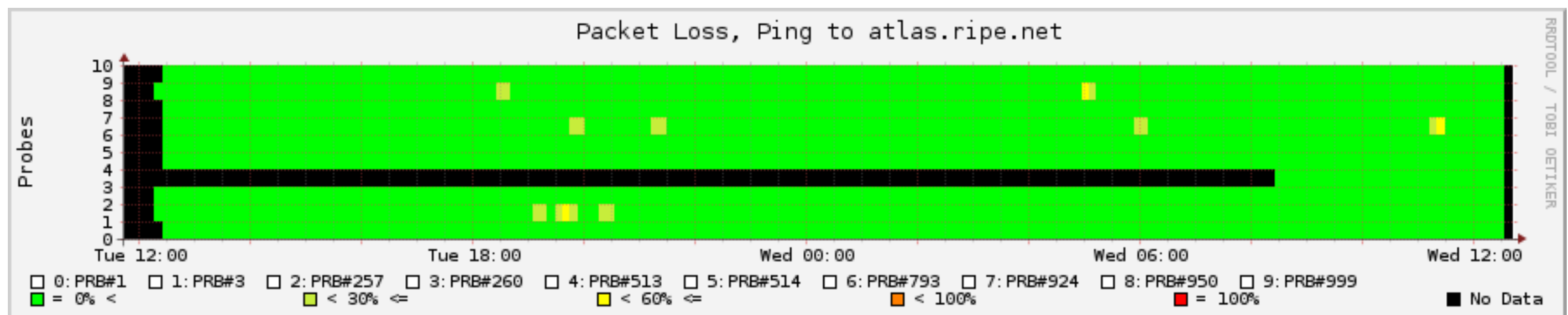
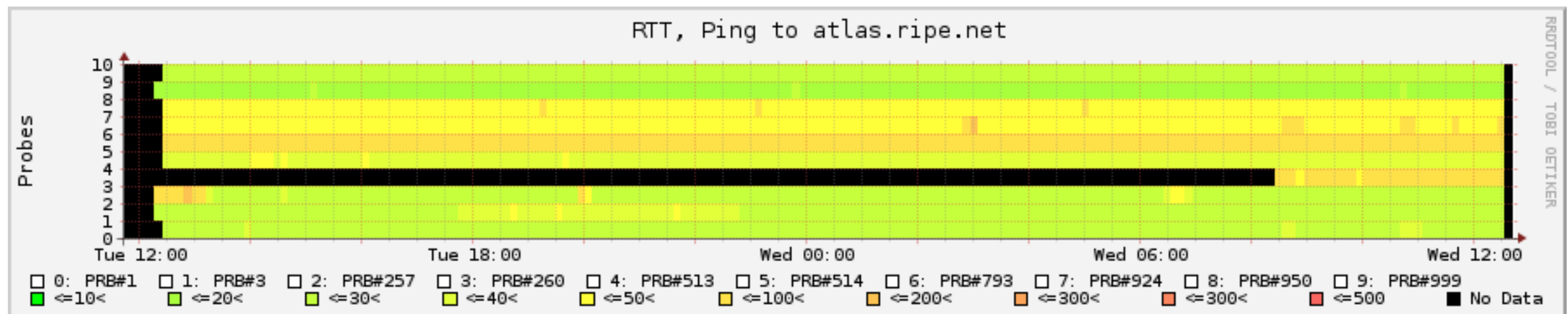
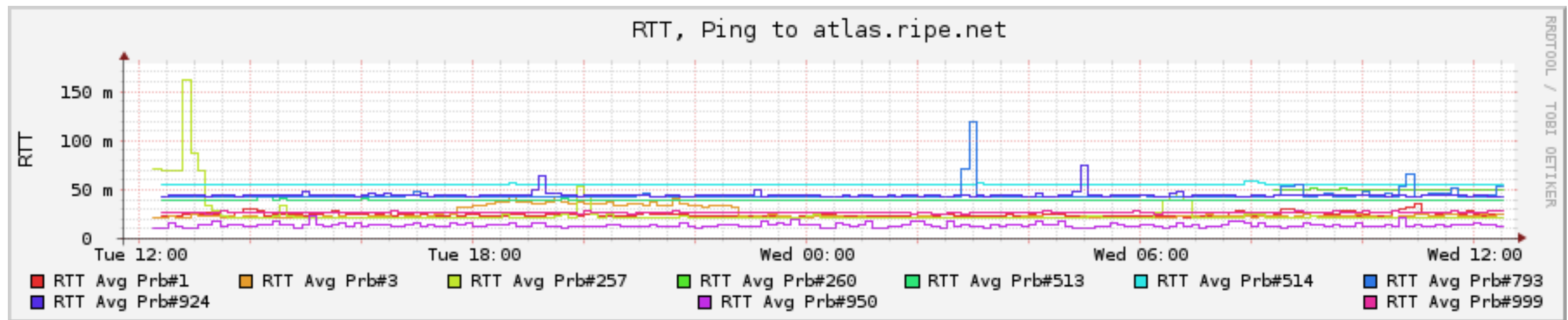
Notify me: ☐

Public: ☐

Save Cancel

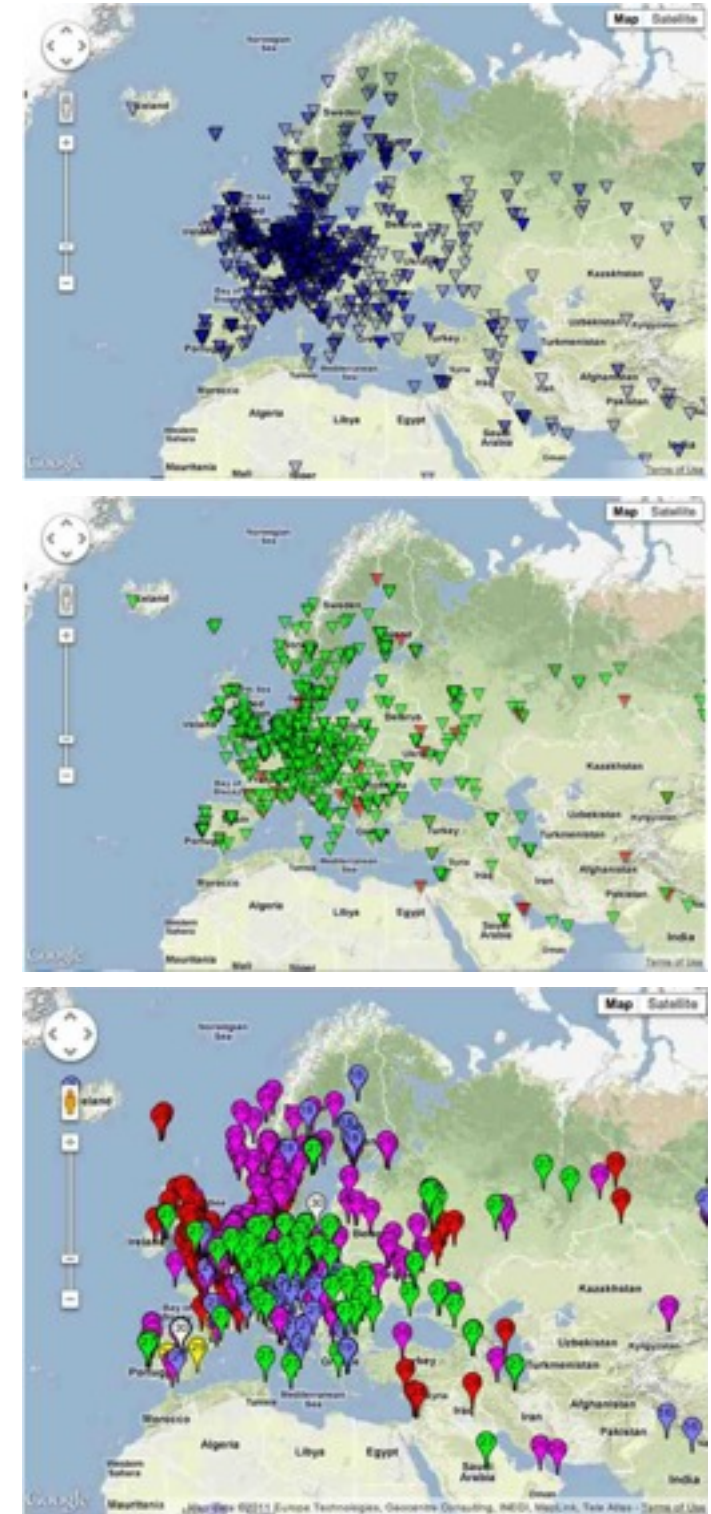
- Configurable aspects:
 - Resolve on probe
 - Timing
 - Number of probes
 - Response to low number of probes
 - Intervals
 - Notifications
 - Public

Results of 'ping' UDM



Planned Developments

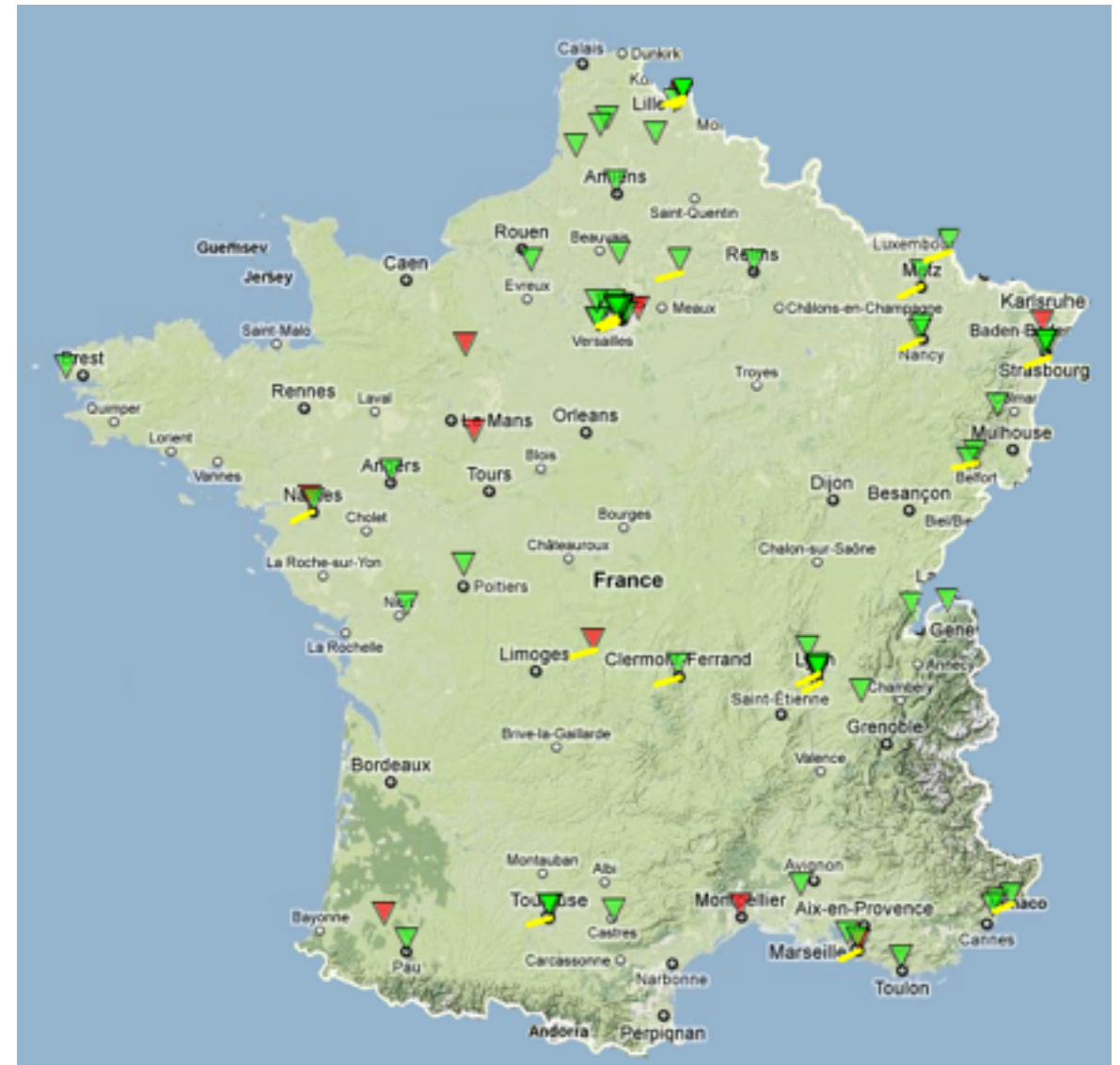
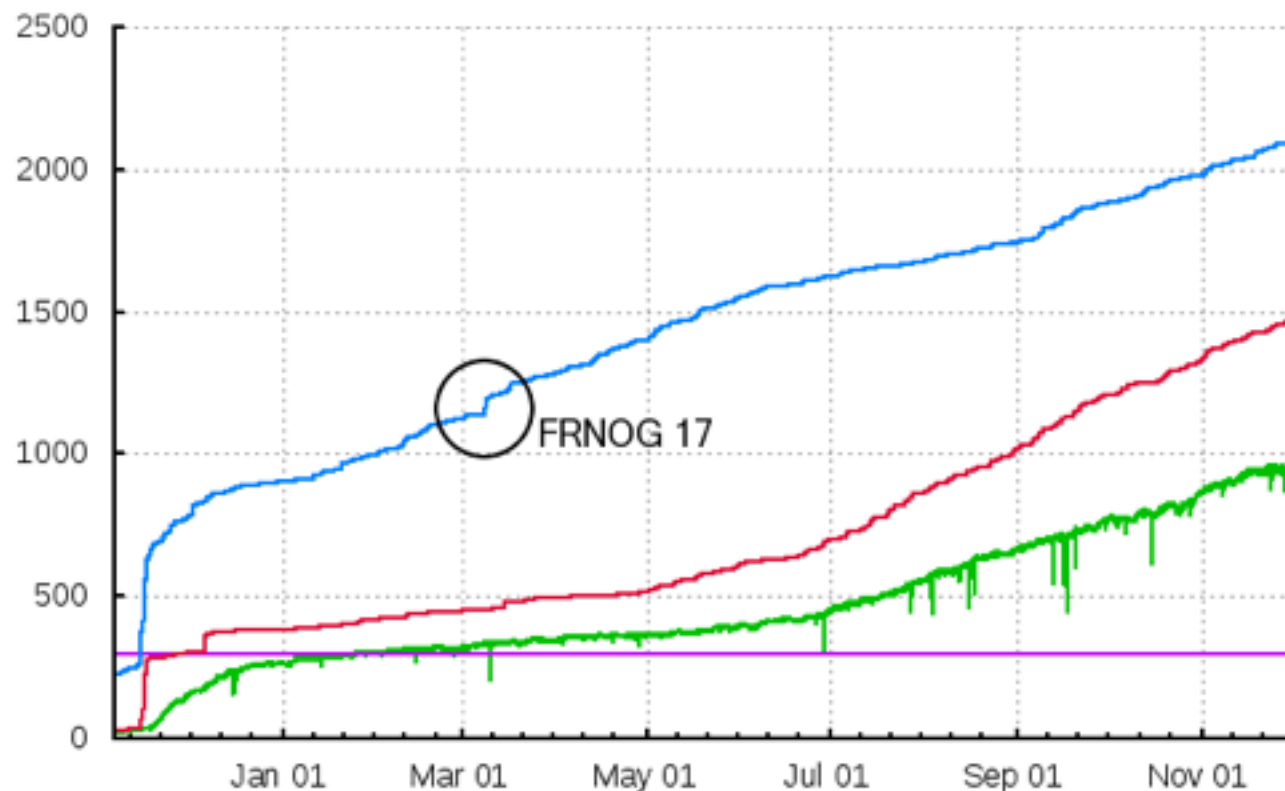
- Roll-out of UDM
- More UDM types
- Real-time access to (raw) data
- APIs to the system
- Automatic alerts/notifications
- More (types of) maps
- More probes distributed and installed



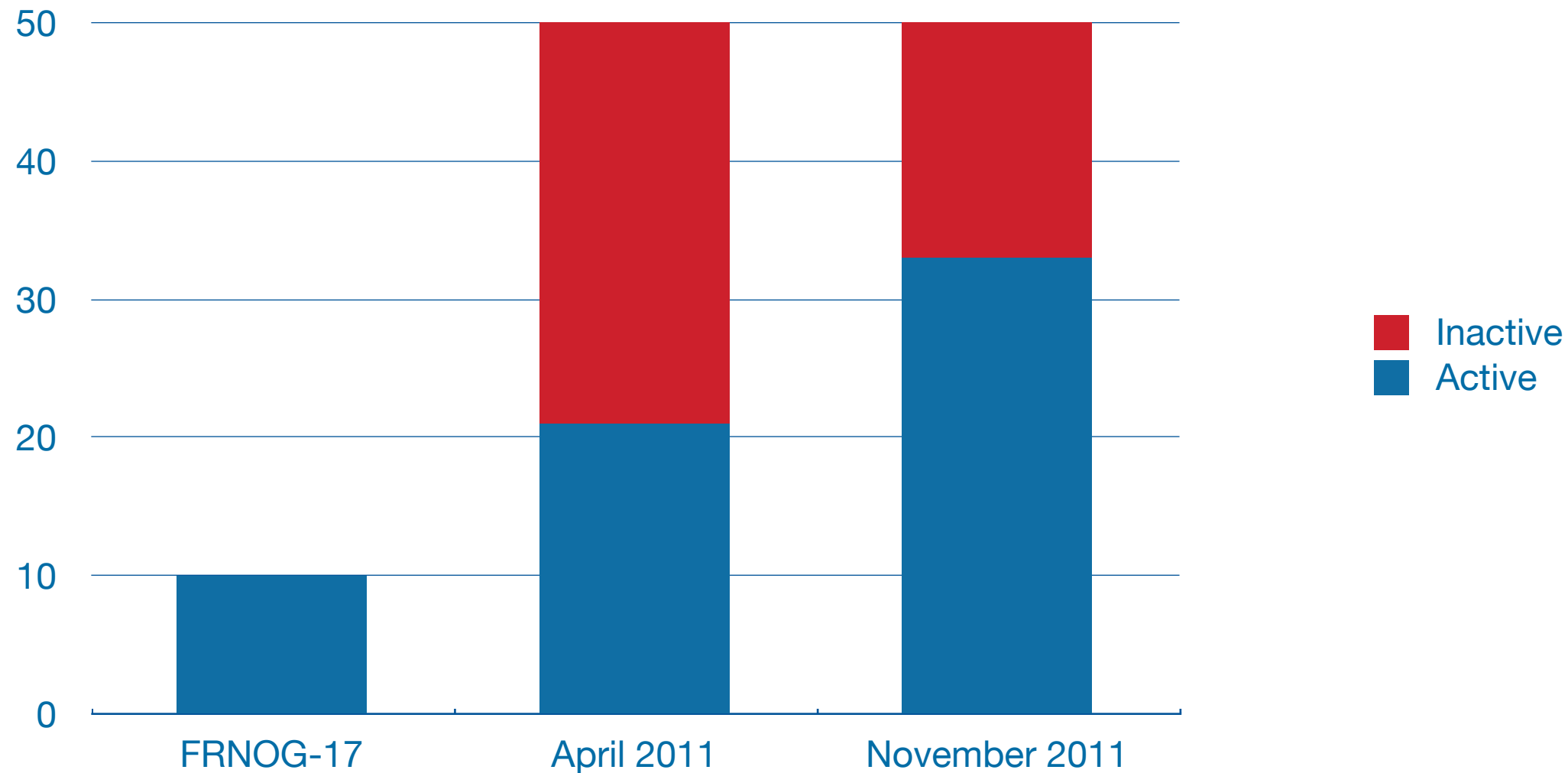
Probes Distributed

- Register for a probe
- Collect your probe

Probes Up ———
Initial goal of 300 ———
Requested probes ———
Probes Distributed ———



Probes Deployed



- Register your probe
- Connect your probe

Links

- **Atlas:** <http://atlas.ripe.net>
- **Articles:** <http://labs.ripe.net/atlas>
- **UDM testing:** atlas-dev@ripe.net
- **Measurements Community Builders:**
mcb@ripe.net
- **RIPEstat:** <http://stat.ripe.net>
- **TTM:** ttm@ripe.net
- **Labs:** <http://labs.ripe.net>

Questions?

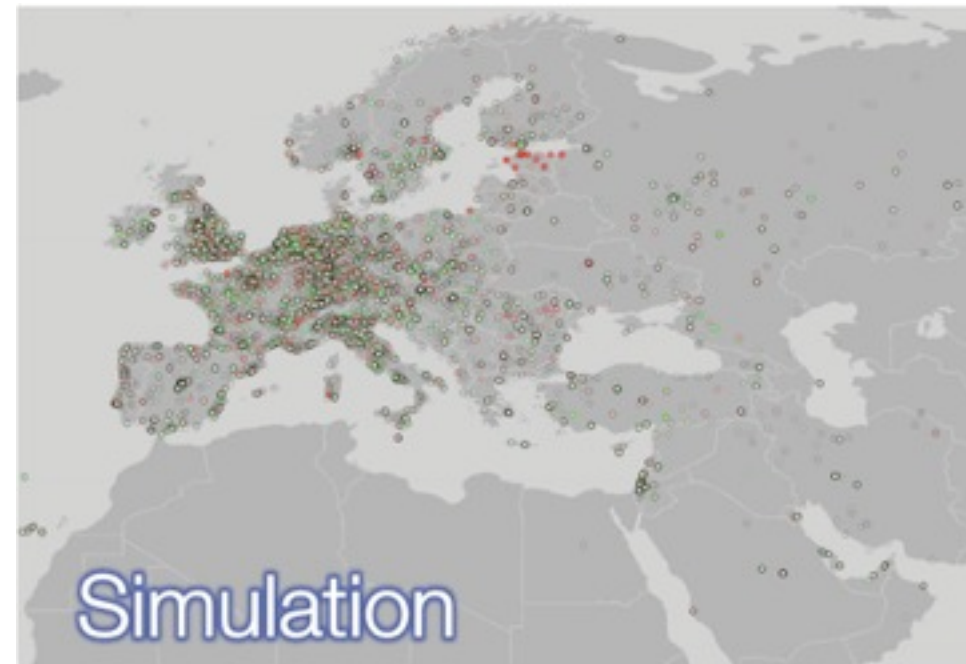


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Bonus Slide: RIPE Atlas for Every LIR

Proposal to deploy 20,000 probes in next 18 months



- **Article:** <https://labs.ripe.net/Members/dfk/a-ripe-atlas-probe-for-each-ripe-ncc-member>
- **Input:** ncc-services-wg@ripe.net