

# RIPE Atlas

## User Defined Measurements Functionality and Implementation

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# New Features of RIPE Atlas

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In the past months we focused on behind-the-scenes work:

- Support for handling more measurements
- Many internal components to handle details:
  - Measurement scheduling
  - Task distribution
  - Data collection and visualisation

Now we can start to cash in on many of these...

# New Features of RIPE Atlas

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Recently we made major upgrades:

- More built-in ping destinations
- New: traceroutes to built-in destinations
- New: DNS anycast checks
- Preparations for “User Defined Measurements”

# New Features of RIPE Atlas

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More built-in ping destinations:

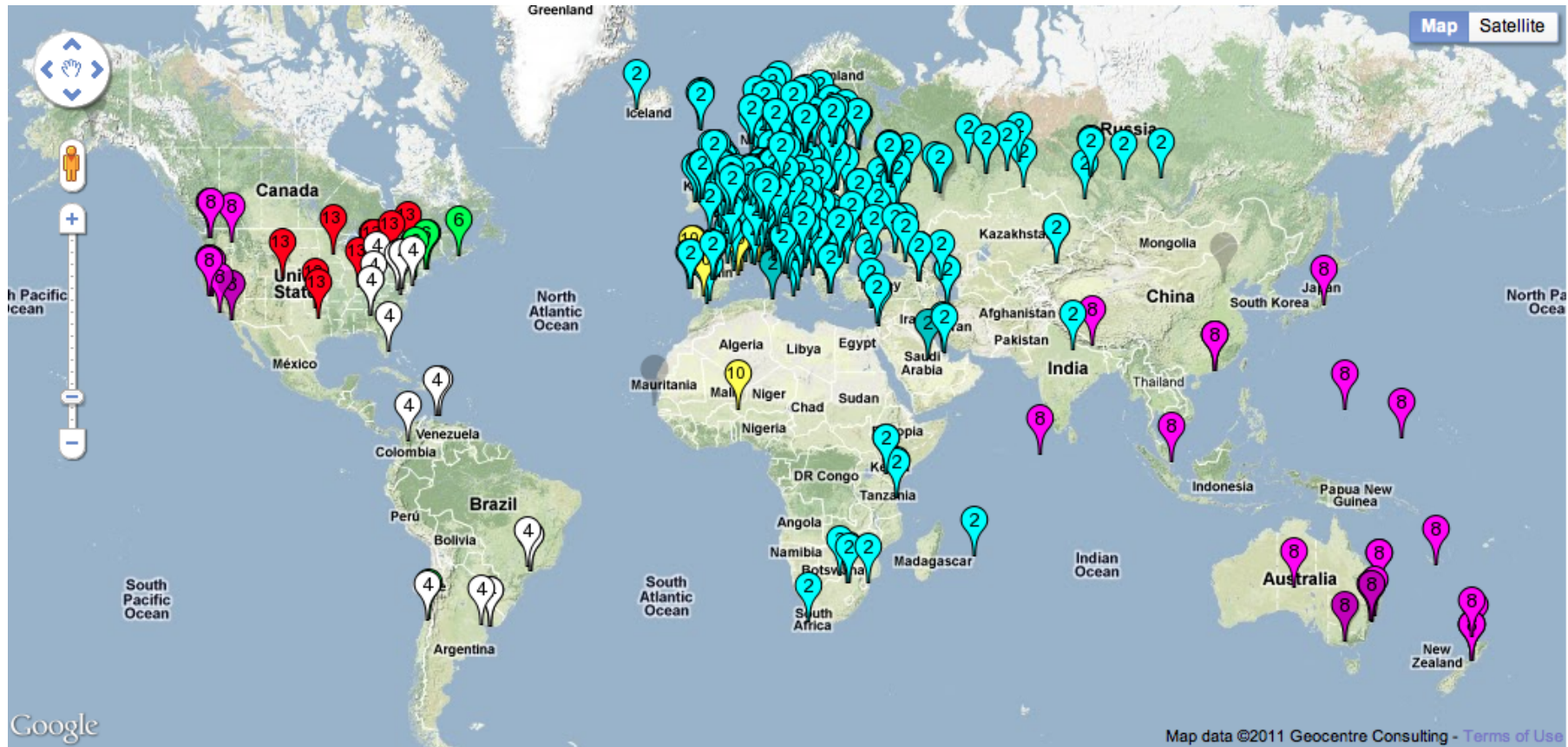
- Virtually all root name servers
- Some unicast servers too

Traceroutes to built-in destinations:

- To provide background information if there are events you want to look into

# New Features of RIPE Atlas

## DNS anycast checks (c-root)





# New Features of RIPE Atlas

## DNS anycast checks (i-root)



# User Defined Measurements

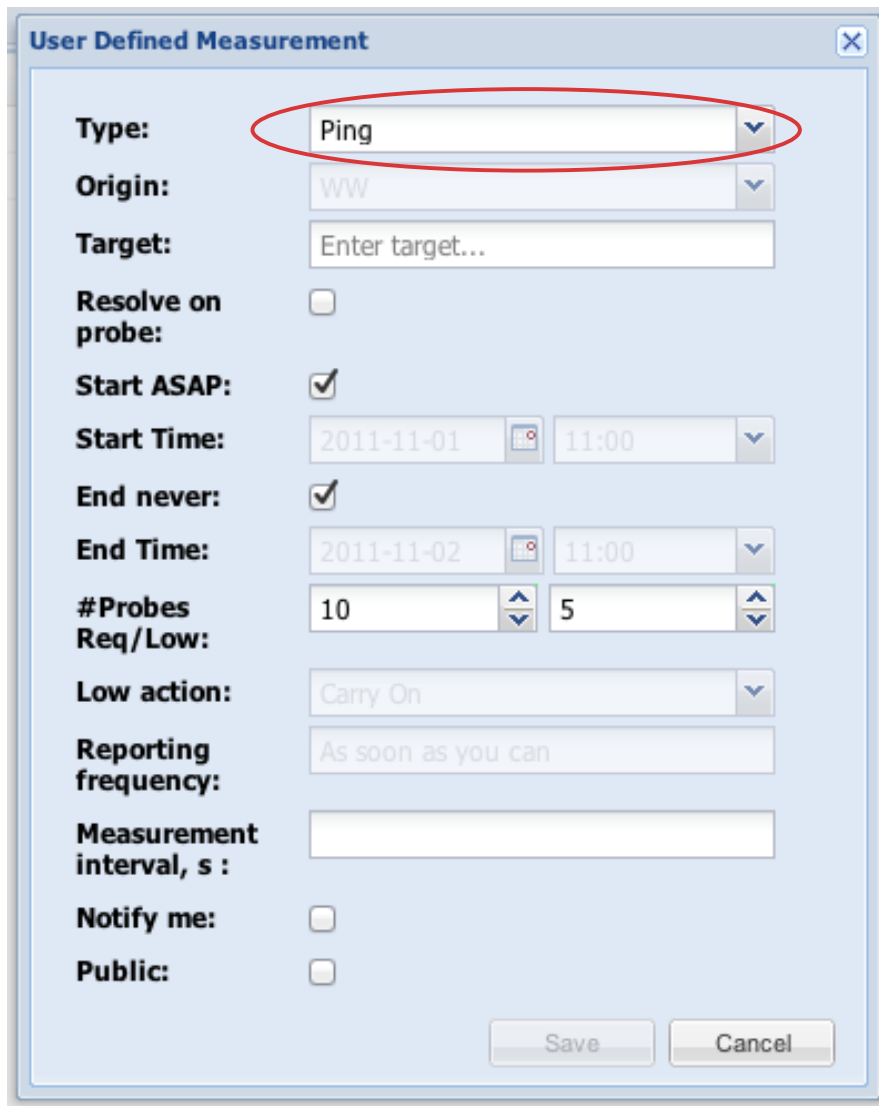
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## Strategy:

- Start with a basic set of variables that can be set by the user
- Enable more and more features over time
- Allow more and more resource usage over time
- Add more measurement types – based on user demand

All of this ties into the “credit system”.

# Specify Your Measurement...



**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:

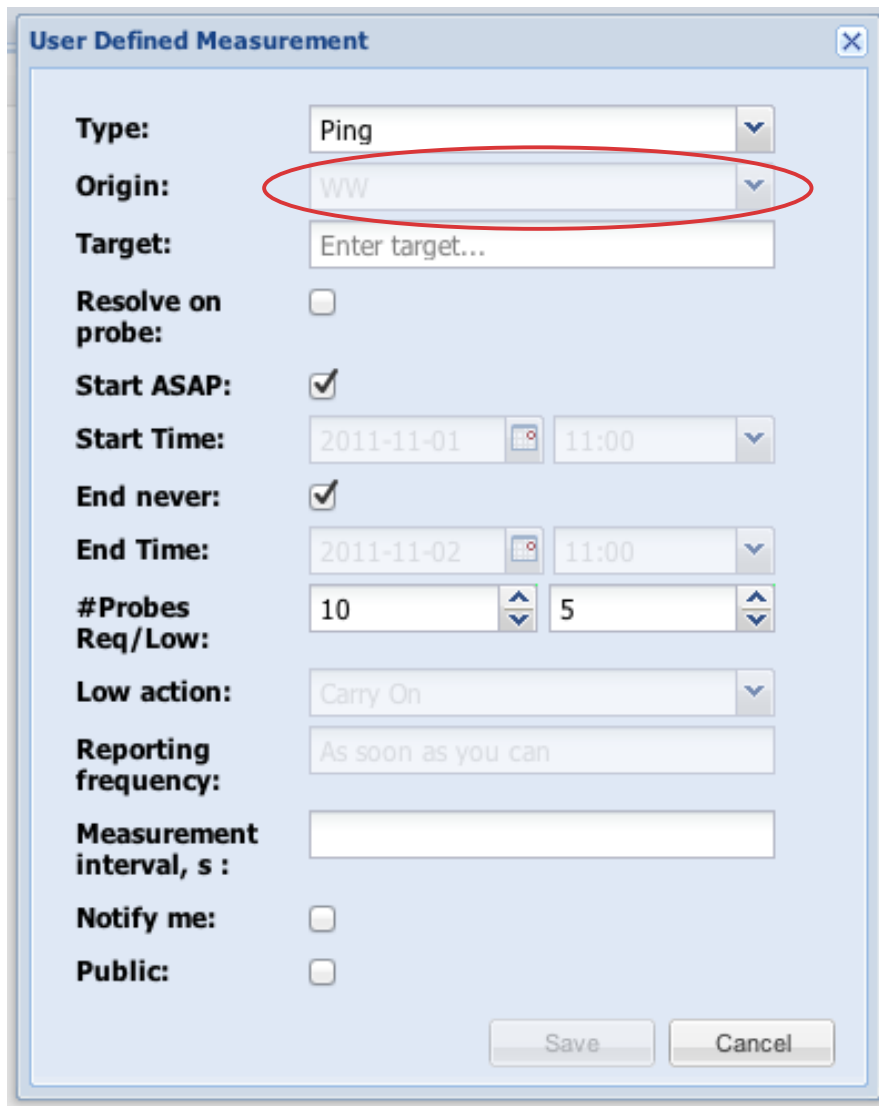
- Ping: v4/v6
- Traceroute: v4/v6

Coming up:

- DNS query
- Others (later)



# Specify Your Measurement...



**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

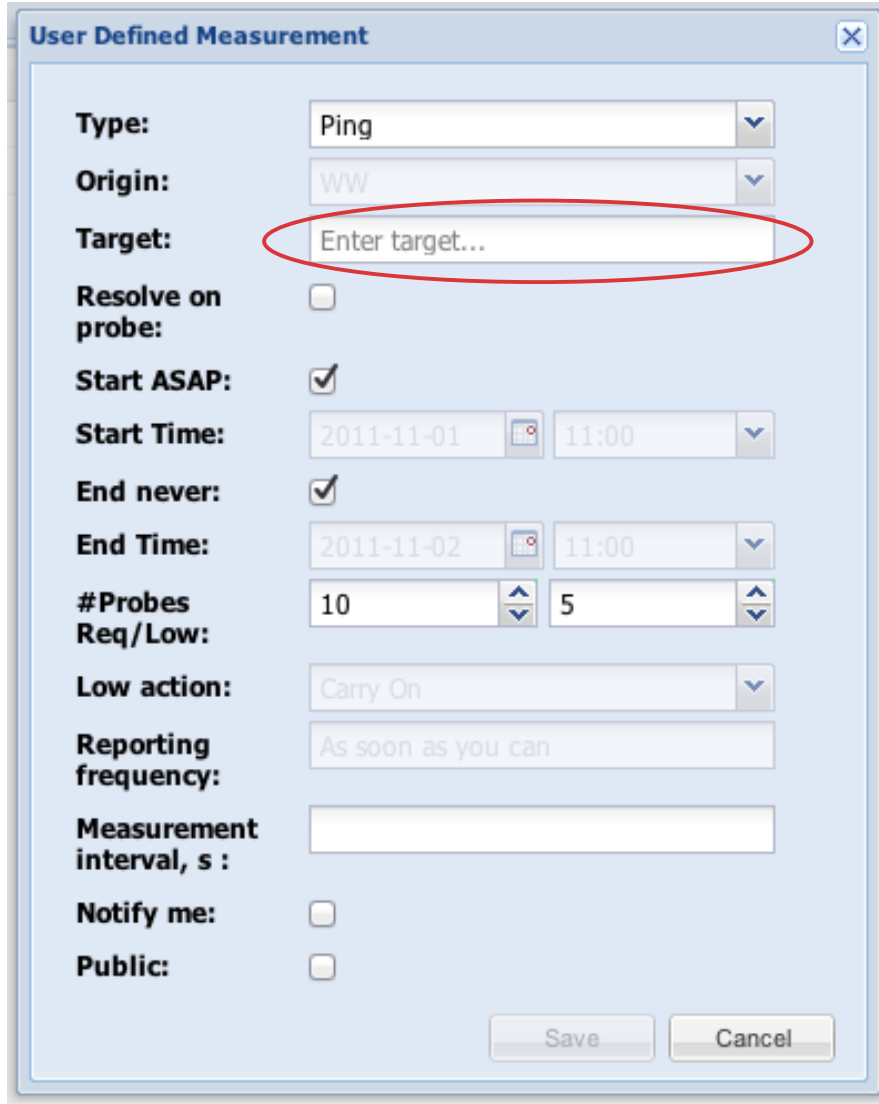
Currently:

- Worldwide

Coming up:

- From a region
- From a country
- From an AS
- From a prefix
- From a probe

# Specify Your Measurement...



**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: ☐

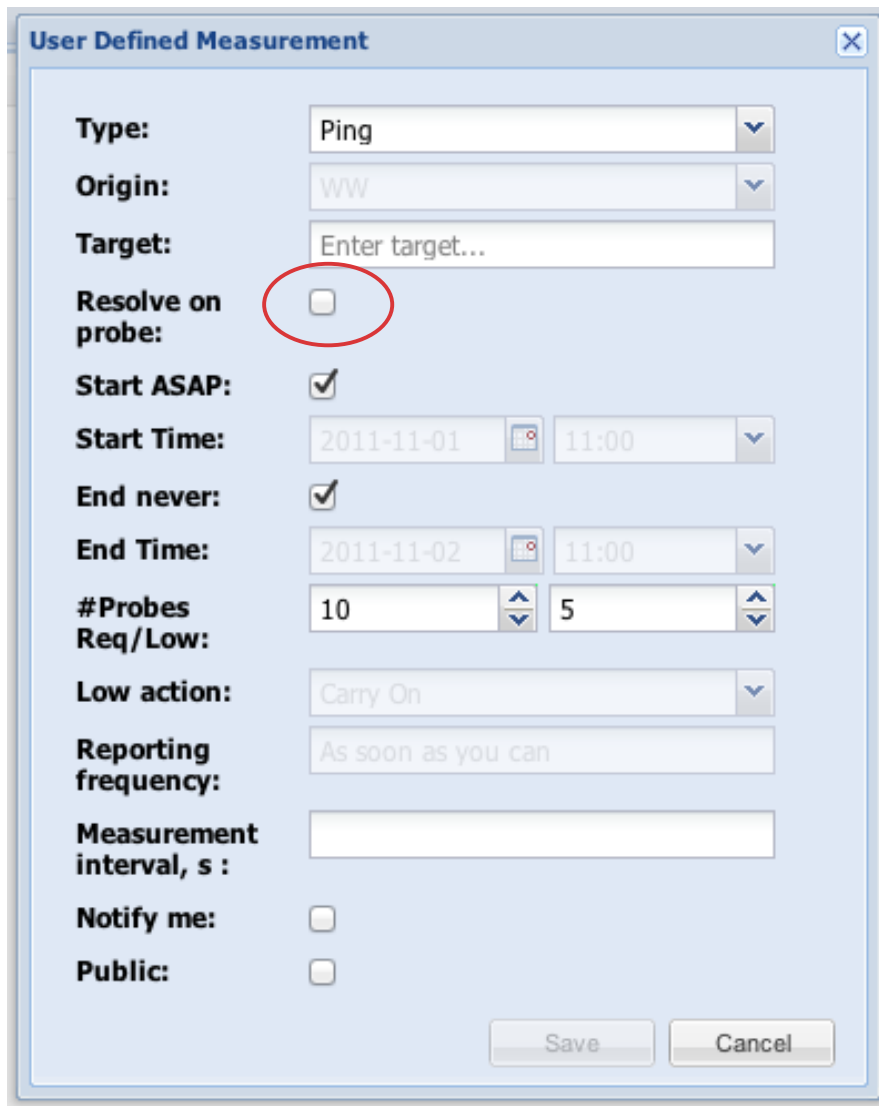
Public: ☐

Save Cancel

Currently:

- IP or name

# Specify Your Measurement...



The screenshot shows a 'User Defined Measurement' dialog box with the following fields and settings:

- Type: Ping
- Origin: WW
- Target: Enter target...
- Resolve on probe: ☐ (circled in red)
- 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: ☐
- Buttons: Save, Cancel

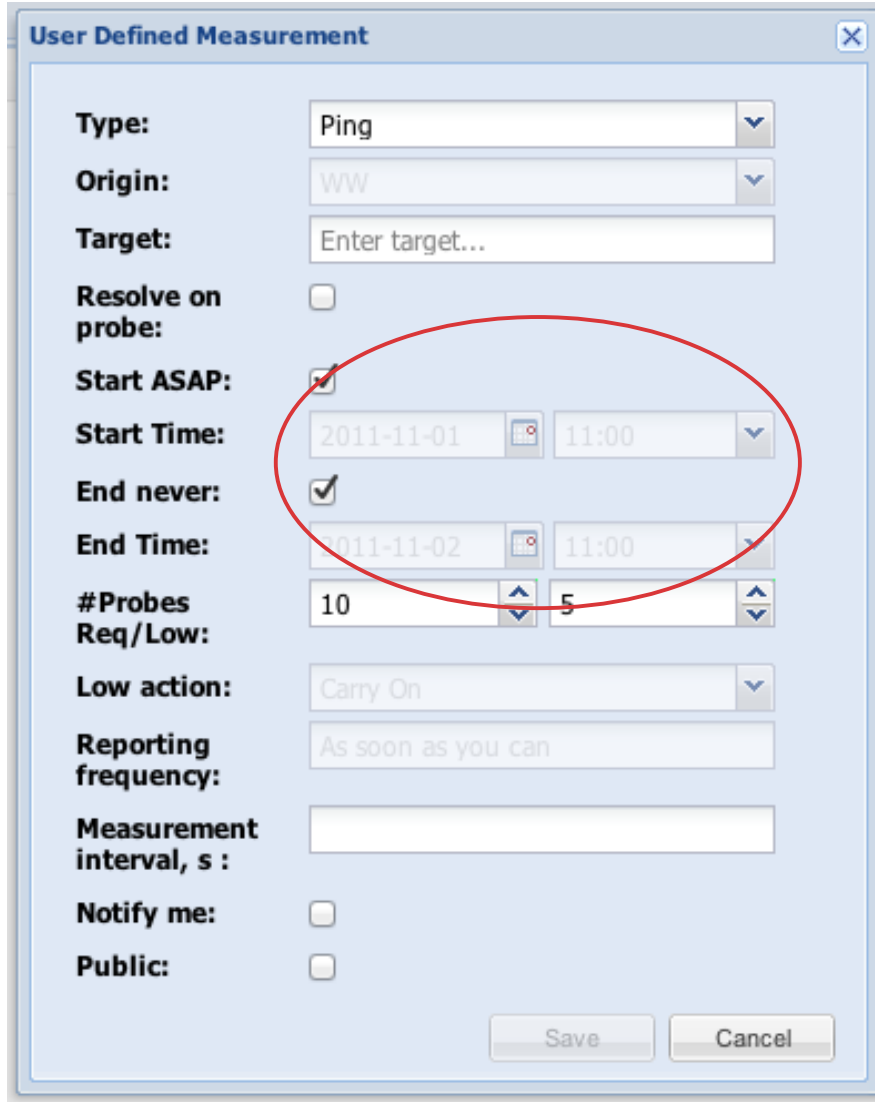
Resolve centrally:

- Probes get IP as destination

Resolve on probe:

- Each probe resolves independently

# Specify Your Measurement...



**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:

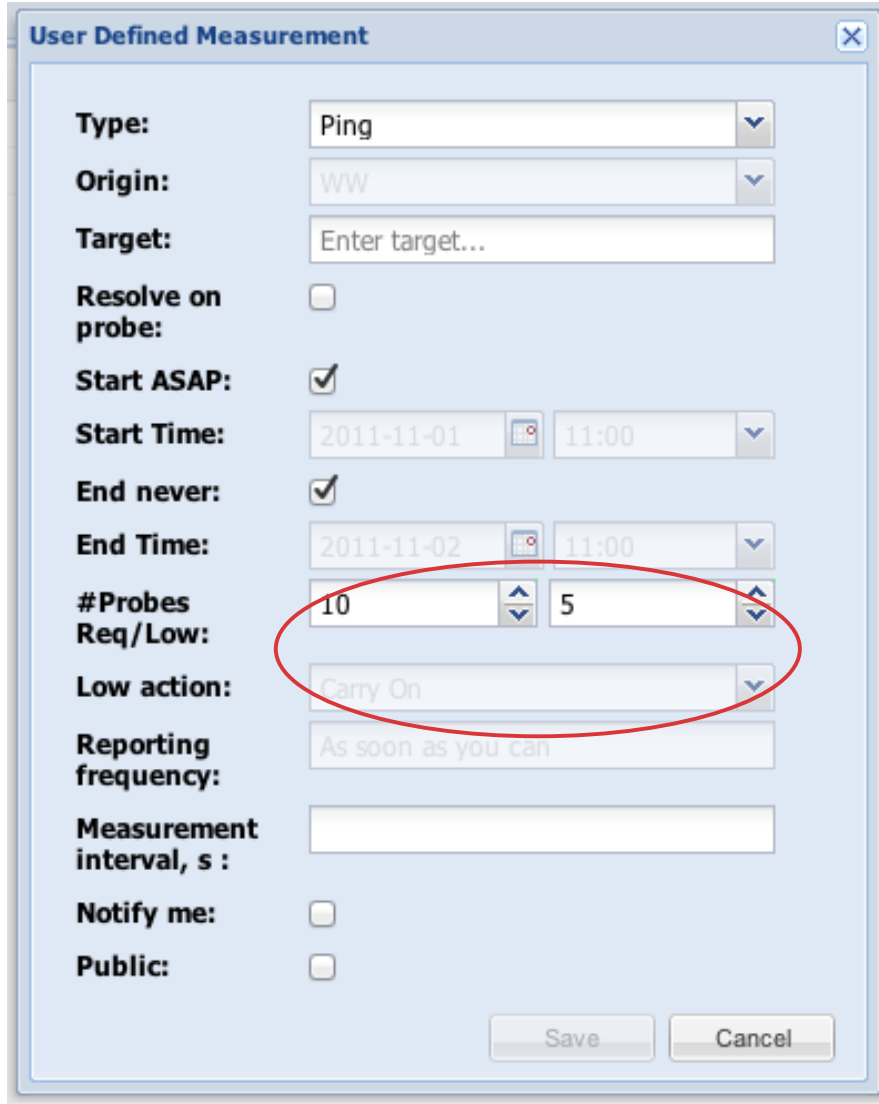
Notify me: ☐

Public: ☐

Save Cancel

- Controlling when and how long the measurement should run

# Specify Your Measurement...



**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: ☐

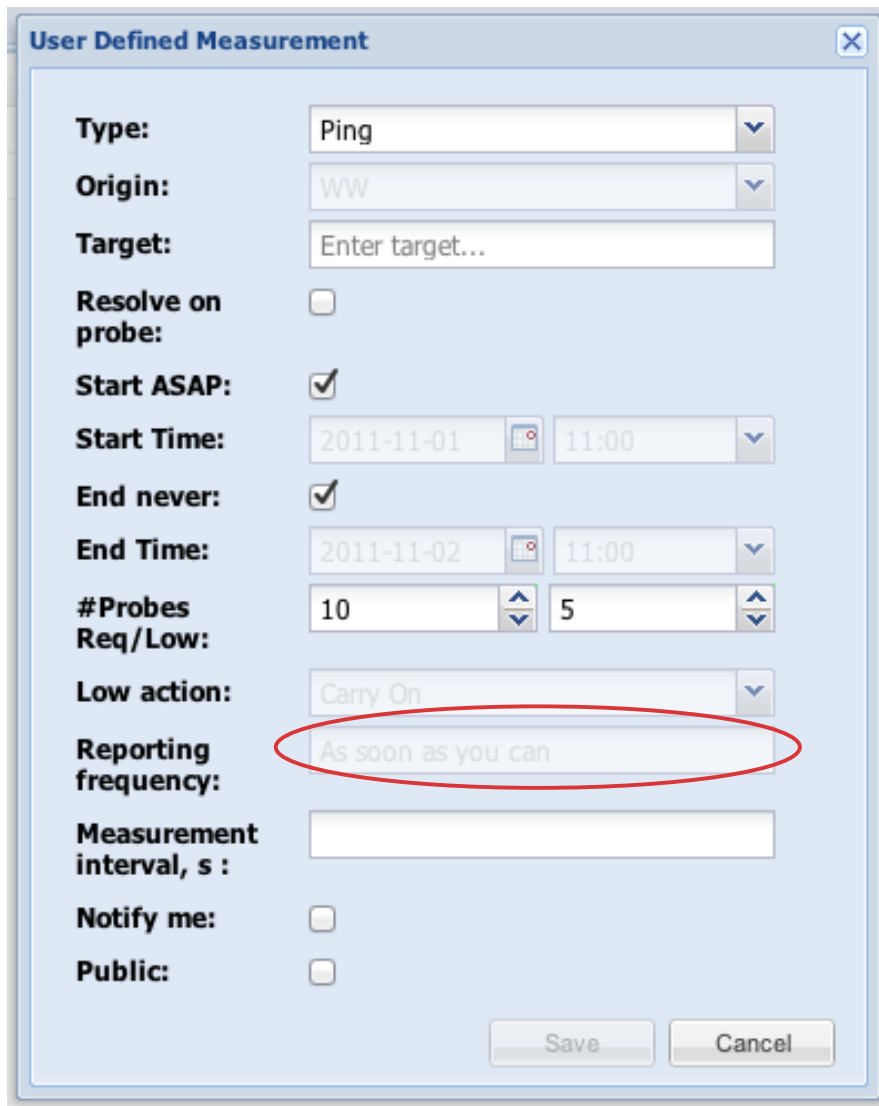
Public: ☐

Save Cancel

How many probes?

- Requested
  - I'd like to have this many
- Minimum
  - Low threshold for further action
- Low action (later):
  - What to do at low threshold

# Specify Your Measurement...



The image shows a 'User Defined Measurement' dialog box with the following fields and options:

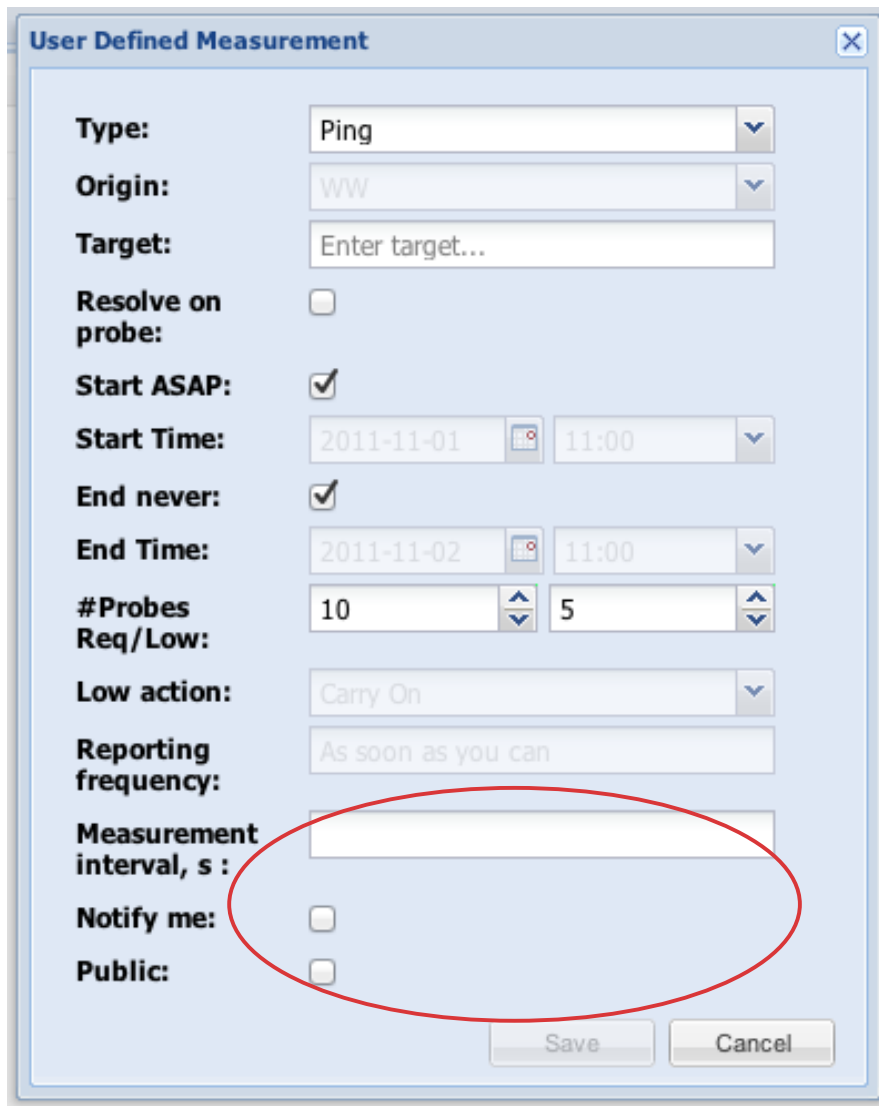
- Type:** Ping (dropdown)
- Origin:** WW (dropdown)
- Target:** Enter target... (text input)
- Resolve on probe:** ☐
- Start ASAP:** ☒
- Start Time:** 2011-11-01 11:00 (calendar and time dropdown)
- End never:** ☒
- End Time:** 2011-11-02 11:00 (calendar and time dropdown)
- #Probes Req/Low:** 10 (up/down arrows) 5 (up/down arrows)
- Low action:** Carry On (dropdown)
- Reporting frequency:** As soon as you can (dropdown, circled in red)
- Measurement interval, s:** (empty text input)
- Notify me:** ☐
- Public:** ☐
- Buttons:** Save, Cancel

How often to report?

- Currently:
  - ASAP
- Later:
  - It does not have to be real-time



# Specify Your Measurement...



**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: ☐

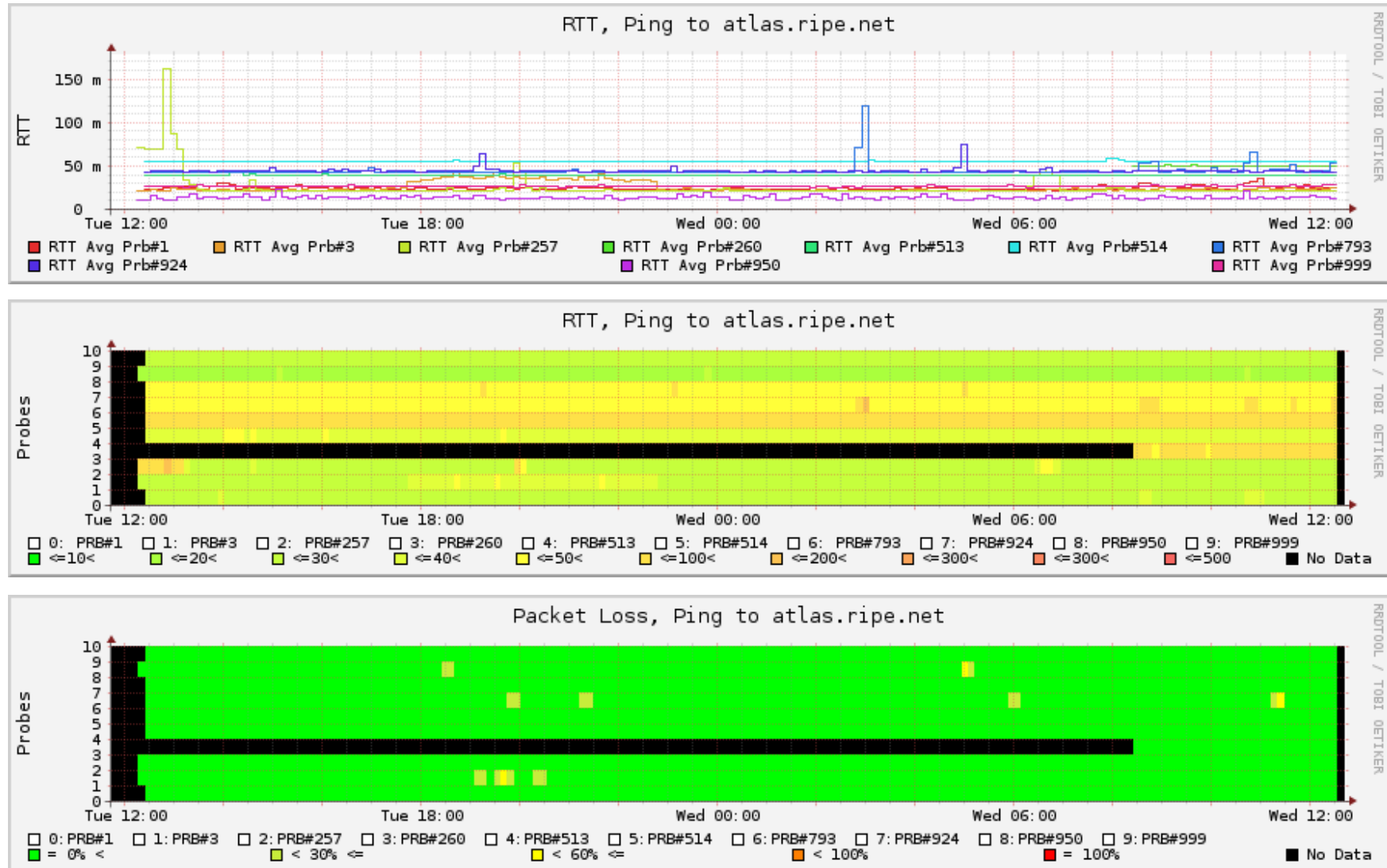
Public: ☐

Save Cancel

Other:

- Decrease measurement frequency
- Notify me if something happens
- Make data public

# Results of a “ping” UDM



# RIPE Atlas - The Road Ahead

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We're starting to test UDM in real life. If you're interested in beta-testing:

- Drop a mail to [atlas-dev@ripe.net](mailto:atlas-dev@ripe.net)
- We'll likely have more beta testers than we can handle...

# RIPE Atlas - The Road Ahead

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Planned next steps include:

- Real-time access to (raw) data
- APIs to interact with the system
- Automatic alerts and notifications
- ...
- Your preferences?

Questions?

