

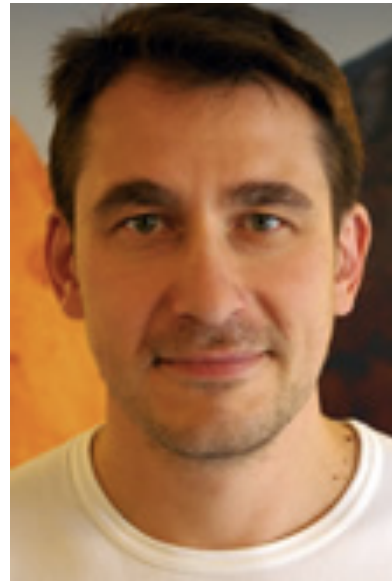


RIPE NCC
RIPE NETWORK COORDINATION CENTRE

RIPE NCC Measurement Data Workshop



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Viktor Naumov



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Schedule



09:00 - 10:30

First session

10:30 - 11:00

Break

11:00 - 12:30

Second session

Lunch

Exercises



[https://stat.ripe.net/widgets/workshops/enog11/
exercises.pdf](https://stat.ripe.net/widgets/workshops/enog11/exercises.pdf)

Solutions:

<https://stat.ripe.net/widgets/workshops/enog11/solutions.pdf>

Overview 1 - RIPEstat



RIPEstat

- ~~Introduction to RIPE and the RIPE NCC - not part of this workshop~~
- Introduction to RIPEstat
- More about widgets
- *List of widgets - optional*
 - *Exercise: Querying for a Resource*
- Useful routing widgets
 - *Exercise: BGPlay*
- Handling abuse
 - *Exercise: Handling Abuse*
- *Personalising RIPEstat - optional*
 - *Exercise: MyView*
- Comparing results
 - *Exercise: Comparing Results*
 - *Exercise: RIPEstat Use Cases*

Overview 2 - RIPE Atlas



RIPE Atlas

- Introduction to RIPE Atlas
- What you can get from RIPE Atlas as a visitor
- Exploring public probes
 - *Live Demo*
- Finding public measurements
 - *Exercise F: Analyse results*
- Creating a measurement
 - *Exercise G: Create a measurement*
- Network monitoring
 - *Exercise H: Setting up 'Status Checks'*
- *More RIPE Atlas features - optional*
- How to host a probe
- ~~Advanced topics - not part of this workshop~~
 - ~~Use cases and success stories~~
 - ~~RIPE Atlas anchors~~
 - ~~RIPE Atlas community~~



Introduction to RPEstat

Section 2

What is RIPEstat?



One interface for viewing all Internet number resource data

“One-stop shop”



What data? What sources?

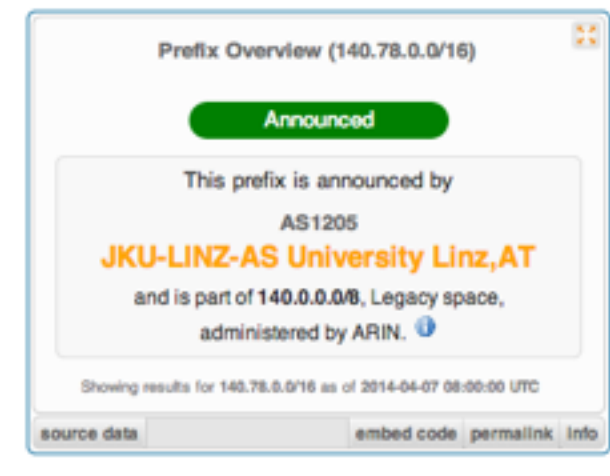
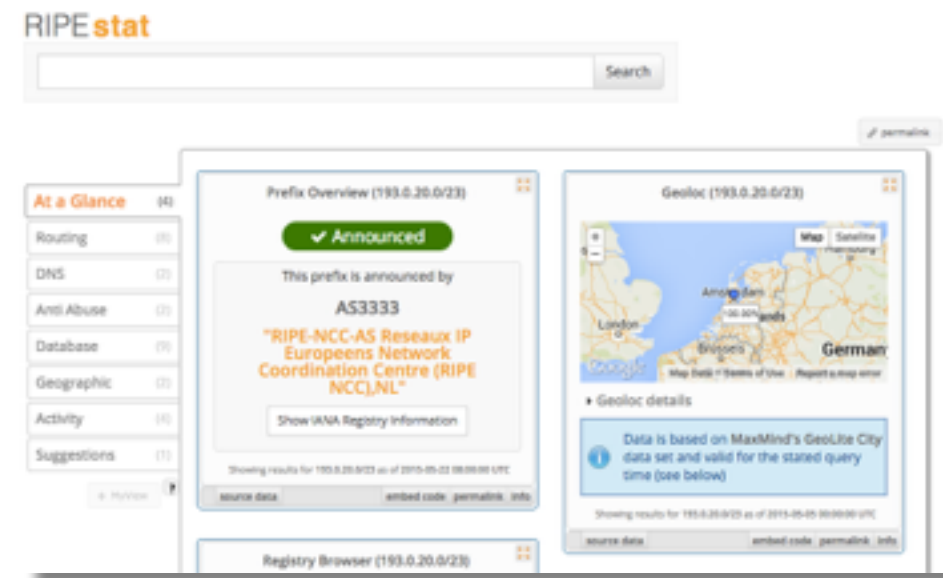


- RIPE Database
- Other RIR data
- BGP routing data (RIS)
- Active measurements (RIPE Atlas, DNSMON)
- Geolocation (third party)
- Blacklist data (third party)
- More...

RIPEstat APIs



- <https://stat.ripe.net>
- RIPEstat widget API
- RIPEstat data API
 - <https://stat.ripe.net/data/routing-status/data.json?resource=...>



Landing page



**RIPEstat shows
your own IP/ASN**

RIPEstat Home	«
About RIPEstat	>
Documentation	>
Use Cases	>

Your IP address is:
193.0.20.230

System Statistics

249,893

Requests seen in the last full hour on
RIPEstat

On RIPE Labs

RIPE Atlas Hackathon Results
Apr 10, 2015

Search RIPEstat

Search

Your network: AS3333, 193.0.20.0/2 e.g.: IPv4 prefix/range, IPv6, ASN

RIPEstat **Data API**
RESTful. Versatile.
And all about data.

Query Types



- IPv6 address/prefix
- IPv4 address/prefix
- ASN
- Hostname
- Country code

Results page



More tabs
with results

Widgets

The screenshot shows the RIPEstat interface for the prefix 193.0.20.0/23. The sidebar on the left contains a list of tabs: 'At a Glance' (4), 'Routing', 'DNS', 'Anti Abuse' (2), 'Database', 'Geographic', 'Activity' (4), and 'Suggestions' (1). The main content area displays four widgets: 'Prefix Overview' (193.0.20.0/23) with an 'Announced' status and AS3333; 'Geoloc' (193.0.20.0/23) with a map; 'Registry Browser' (193.0.20.0/23) showing no database match; and 'Routing Status' (193.0.20.0/23) showing 100% visibility. Red circles and arrows highlight these widgets and the sidebar tabs.

Why use RIPEstat?



- For your own network:
 - Is someone else announcing my prefix?
 - How visible is my new IPv6 network?
 - Is my BGP routing consistent with the Routing Registry?
 - Are my DNS and reverse DNS consistent?
 - Location of my customers' prefixes
 - Was my prefix visible yesterday in Tokyo?

Why use RIPEstat?



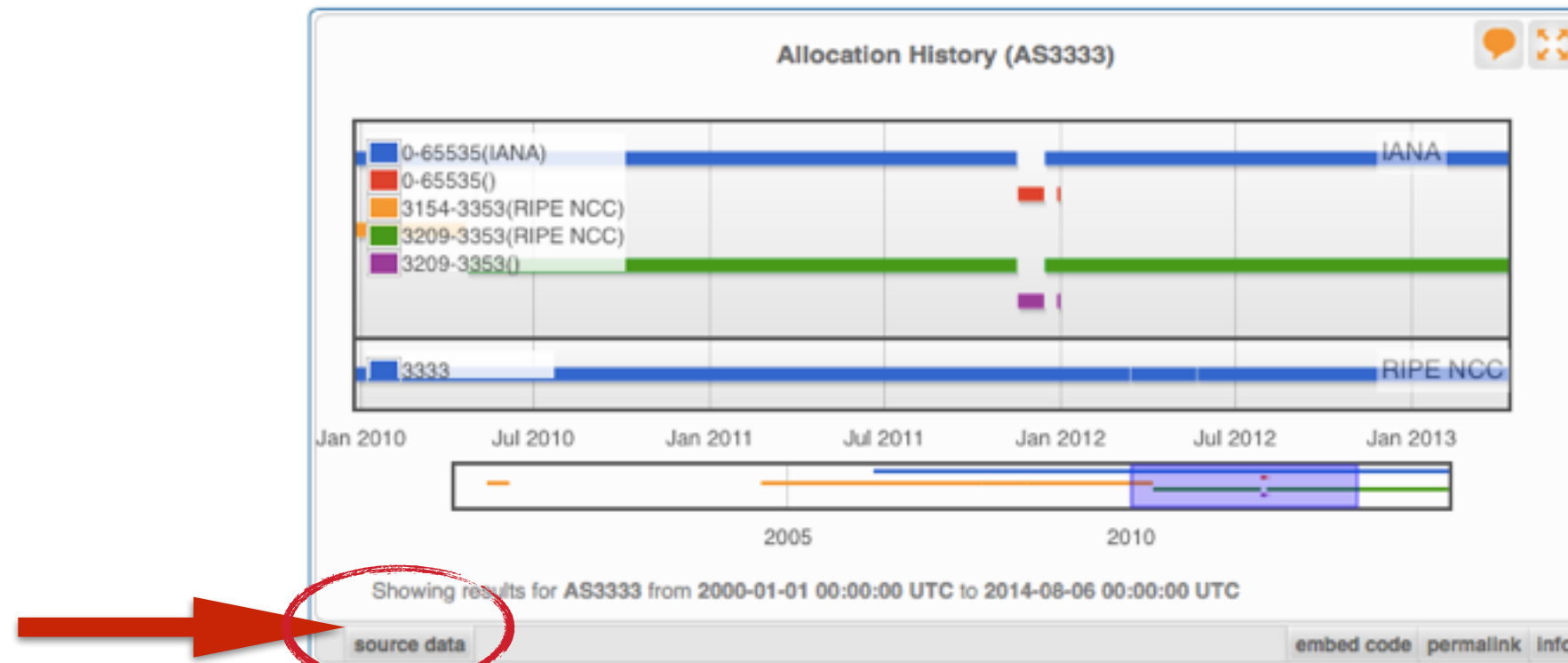
- For viewing other networks:
 - How many IPv6 prefixes are announced in my country?
 - IPv6 in my country compared to neighbours
 - Who has more peers, AS1 or AS2?
 - How does the upstream outage look?
 - Is the prefix/ASN that I want already announced?
 - Which ASN announces an IP?
 - Where can I report abuse from an IP?



More About Widgets

Section 3

Get the data behind the widget!



source data embed code permalink info

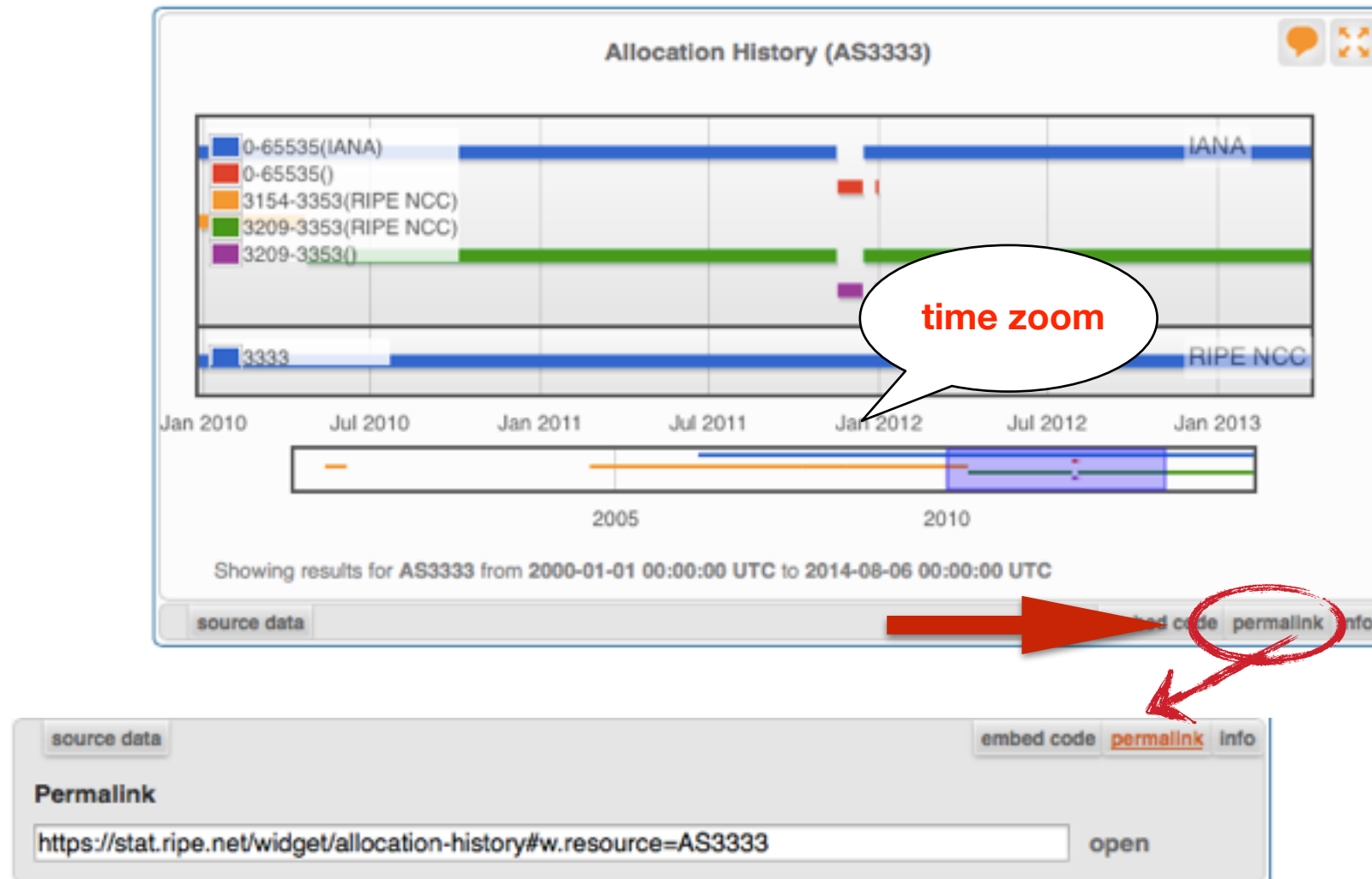
Get the data behind this widget with the Data API

<https://stat.ripe.net/data/allocation-history/data.json?resource=AS3333>

```
{
  "cached": true,
  "data": {
    "query_endtime": "2014-08-06T00:00:00",
    "query_starttime": "2000-01-01T00:00:00",
    "resource": "3333",
    "results": {
      "IANA": [
        {
          "resource": "0-65535",
          "status": "IANA",
          "timelines": [
            {
              "endtime": "2007-10-11T00:00:00",
              "starttime": "2007-10-11T00:00:00"
            },
            {
              "endtime": "2008-11-03T00:00:00",
              "starttime": "2007-10-27T00:00:00"
            }
          ]
        }
      ]
    }
  }
}
```

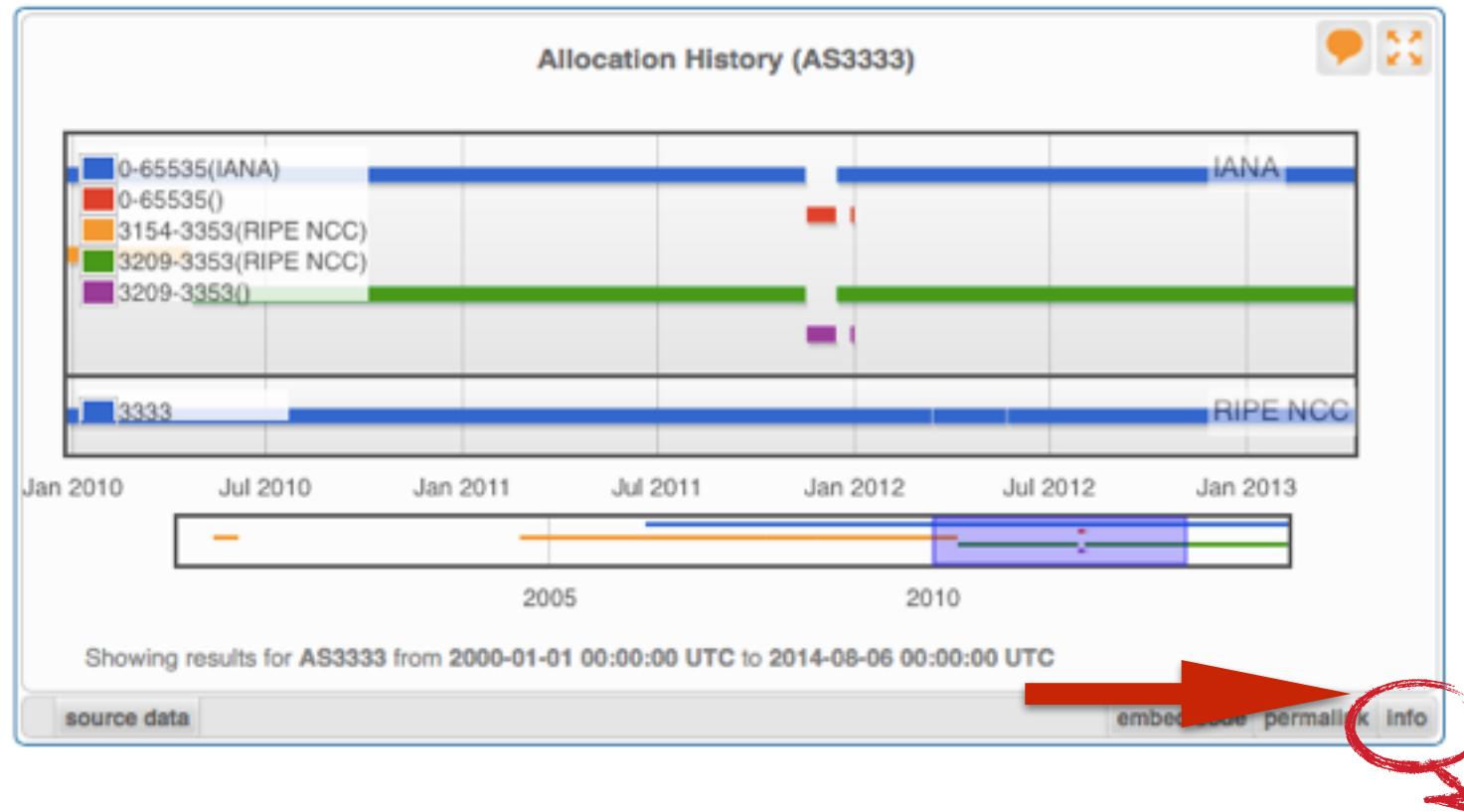


Shareable results URL



- Immutable shareable URL for each result!
- URL includes:
 - Zoom
 - History

Where's the data from?



source data embed code permalink info

Content Explanation

What does this widget show?
Allocation History displays information about allocations and direct assignments of prefixes or AS numbers.

How can the visualisation be interpreted?
When the queried resource was a prefix, the graph will show how that prefix and related (more or less specific prefixes) were allocated over time. When the queried resource was an ASN, the graph will show the allocation of that ASN.
The legend will display all resources, including those which are not announced during the time range displayed. It is possible to change the displayed time period with the timeline selector underneath the graph.



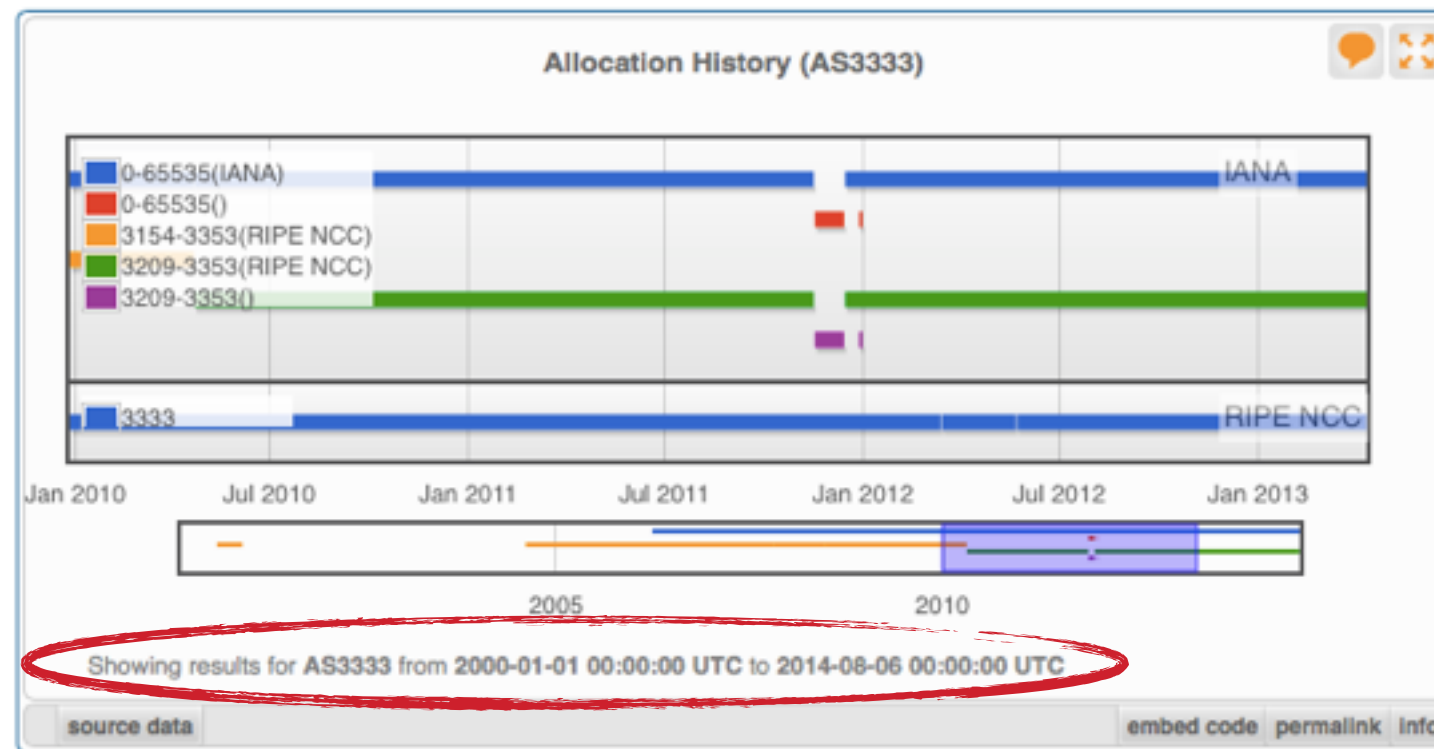
The shaded area is displayed in the graph. This area can be adjusted by moving to the left or right end of the shaded area and then dragging it to the desired location. It is possible to change not only the start and end time, but also the length of the period which is shown.



What is the data source?
The RIR statistics files summarise the current state of allocations and assignments of Internet number resources. They are intended to provide a snapshot of the status of Internet number resources, without any transactional or historical details. Find details for each RIR here:

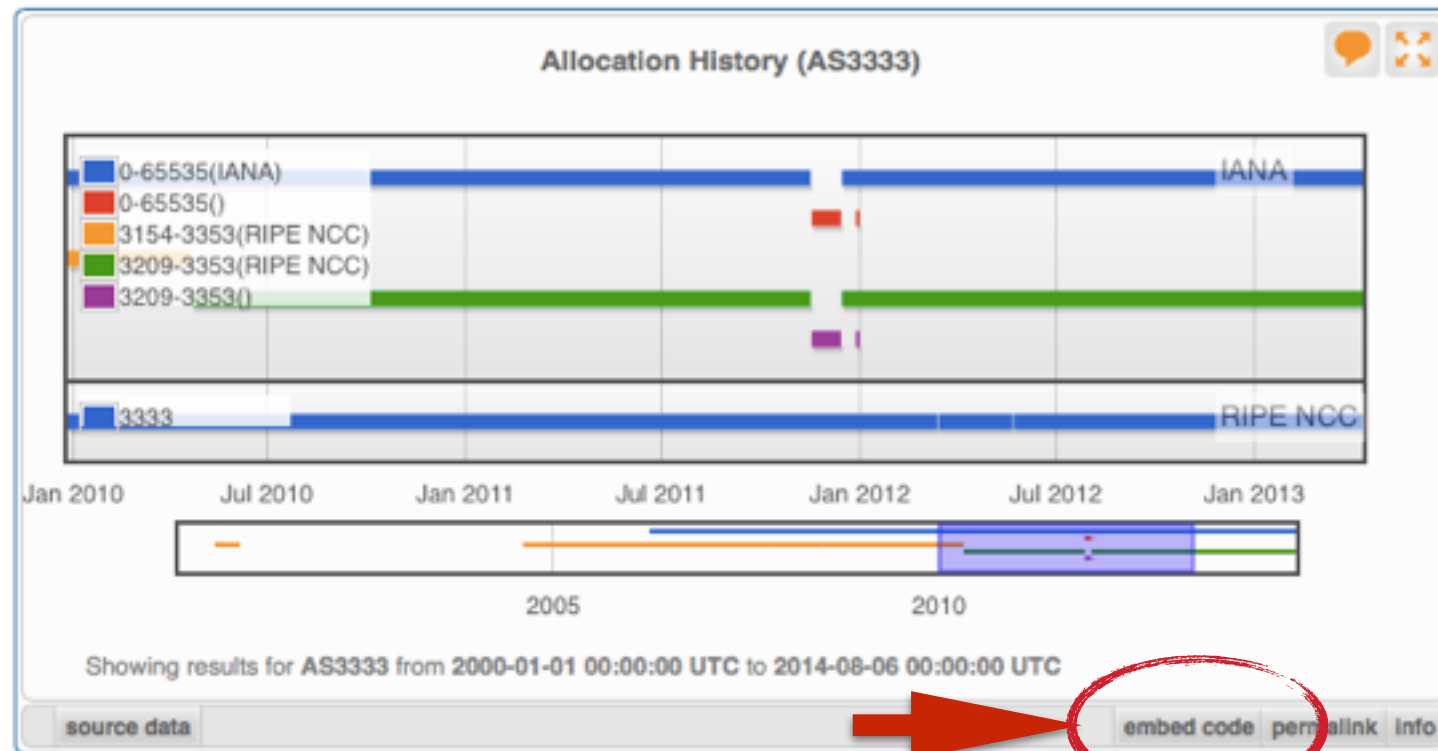
- AFRINIC
- APNIC
- ARIN
- LACNIC
- RIPE NCC

Freshness and timescale of the data



- Timestamp and time period of data
- Different widgets = different data update frequency
- Can be adjusted in most cases
 - Limits: different maximum granularities

Embed the widget!



source data embed code permalink info

Embed this widget on your page

```
<script src="https://stat.ripe.net/widgets/widget_api.js"></script>
<div class="statwdgtauto"><script>ripestat.init("allocation-history",
{"resource":"AS3333"},null,{"size":"medium","disable":["controls"]})</script>
</div>
```

Copy and paste this code into an HTML webpage. Note: widget_api.js (the 1st line) only needs to be included once per page.

For more usage details please view the RIPEstat Widget API documentation.

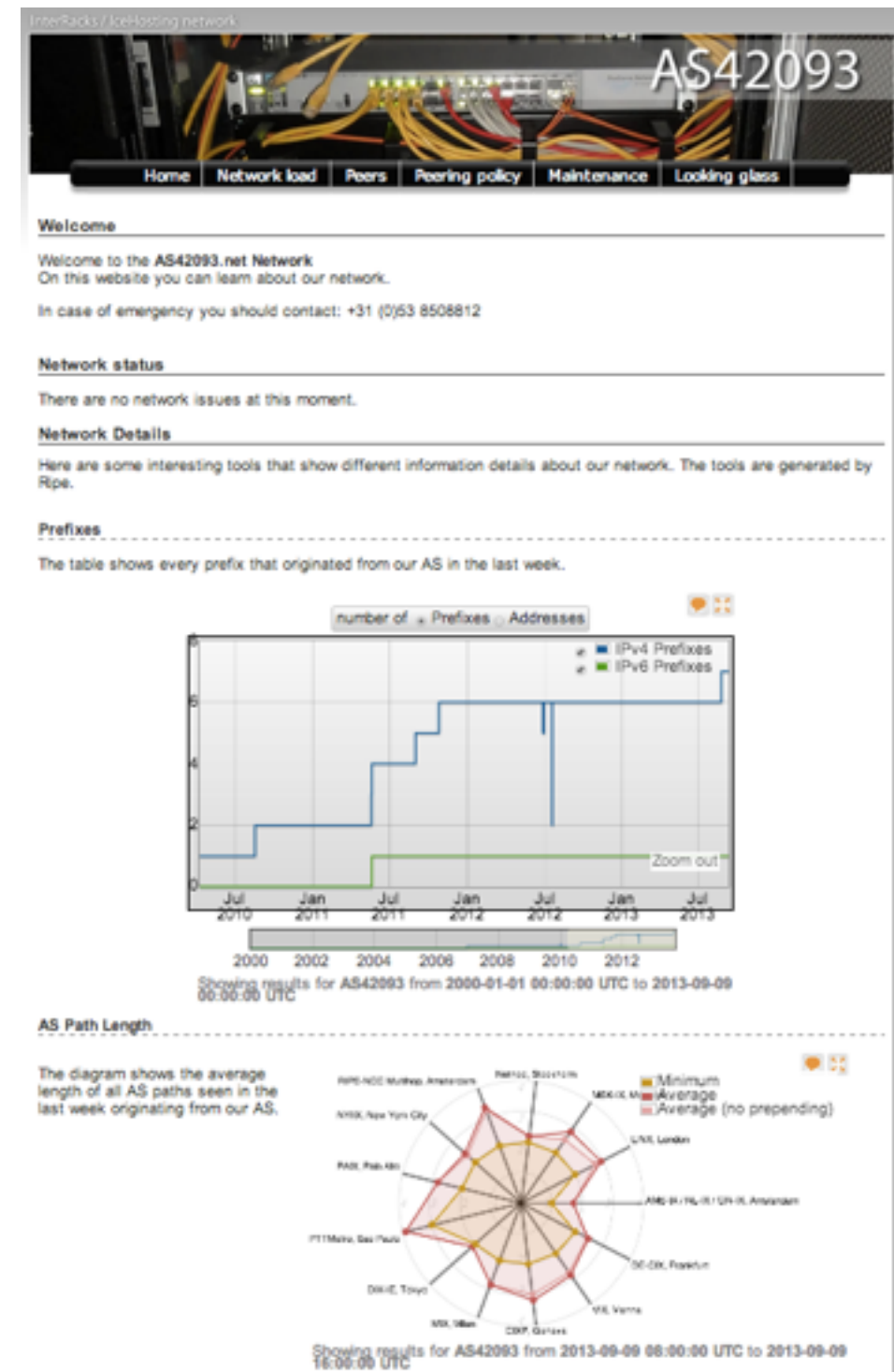
Embedding widgets on your site



- This ISP embedded widgets on its page

Prefix Count
widget

AS Path Length
widget





List Of Widgets

Section 4

Widgets List



<https://stat.ripe.net/widget/list>

RIPEstat Widgets						
This is a complete list of all of the widgets that RIPEstat offers. Each of these widgets can be accessed using the links below.						
When you view a widget you can also get code for embedding it in your own pages. The full procedure for embedding and configuring widgets is described in the Widget API Documentation.						
Show <input type="text" value="100"/> entries		Search: <input type="text"/>				
Title (show slug)	Example	Prefix	IP address	ASN	Hostname	Country code
Abuse Contact Finder		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Address Space Hierarchy		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Address Space Usage		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Allocation History		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Announced Prefixes		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
AS Overview		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
AS Path Length		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
AS Routing Consistency		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ASN Neighbours		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ASN Neighbours History		<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
RIPE Atlas Probes		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
RIPE Atlas Measurement Targets		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>



Exercise A

Querying for a Resource

Refer to the exercise booklet



Visualising BGP Routing Information

Section 5

Querying

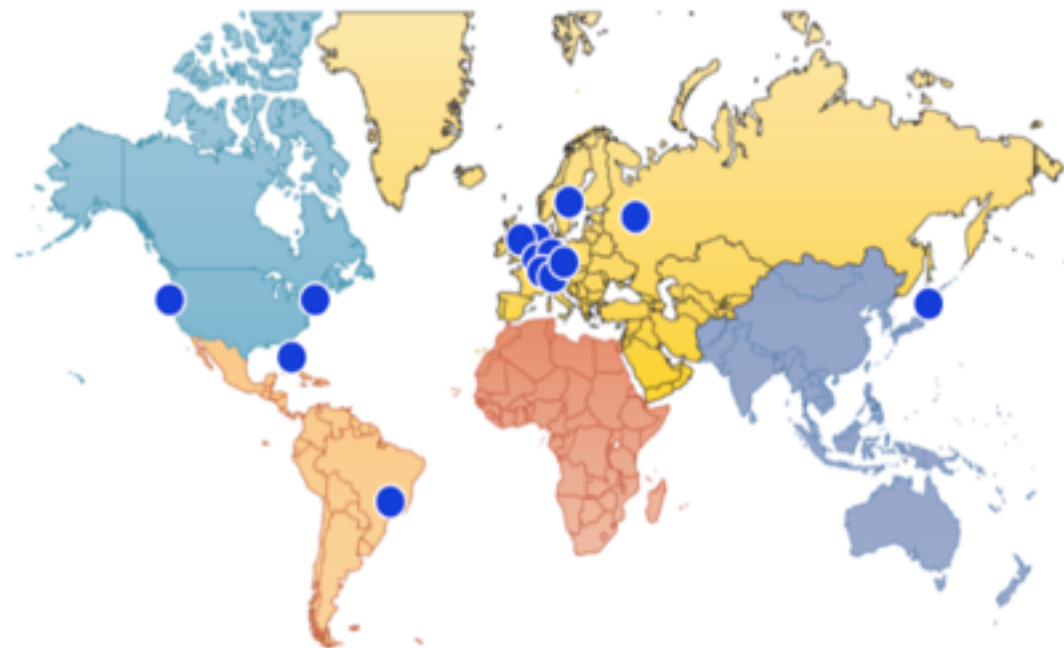


- IP or ASN queried?
 - You get different widgets!
- ASN often visualised based on the prefixes it announces

RIS - Routing Information Service



- RIPE NCC has been collecting BGP information since 1999
 - Raw data: ris.ripe.net
- RIS has 15 route collectors and 600+ peers
- RIPEstat visualises RIS data



At-a-glance view: Prefix queried



At a Glance

Prefix Overview (140.78.0.0/16)

Announced?
By which AS?

Announced

This prefix is announced by
AS1205
JKU-LINZ-AS University Linz,AT
and is part of 140.0.0.0/8, Legacy space,
administered by ARIN.

Showing results for 140.78.0.0/16 as of 2014-08-13 08:00:00 UTC

Geoloc (140.78.0.0/16)

Map Satellite

100.00%

Showing results for 140.78.0.0/16 as of 2014-08-01 00:00:00 UTC

Registry Browser (140.78.0.0/16)

Last updated on 2014-05-27 at 12:53:54 UTC. Show more

inetnum:
140.78.0.0/16

netname	JKU-LAN
descr	Johannes Kepler University
country	AT
org	ORG-JKU1-RIPE
admin-c	ULAC1-RIPE
tech-c	ULNA1-RIPE
status	LEGACY
mnt-by	AS1205-MNT
mnt-by	ACONET-LIR-MNT

Showing results for 140.78.0.0/16 as of 2014-08-13 13:26:45 UTC

RIPE NCC members can access historical information by signing in with their LIR's RIPE NCC Access account.

Routing Status (140.78.0.0/16)

Announced?
By which AS?
What % visible?
Since when?

At 2014-08-13 08:00:00 UTC, 140.78.0.0/16 was 100% visible (by 97 of 97 RIS full peers).

First ever seen before Jan 2004 (= beginning of available data).
Originated by: AS1205 (valid route object in RIPE)
No less-specific covering prefixes.

Advanced Settings

Compare to: 1 week earlier | ☒ Exclude low visibility routes

Showing results for 140.78.0.0/16 as of 2014-08-13 08:00:00 UTC

Results exclude routes with very low visibility (less than 3 RIS peers seeing).

At-a-glance view: ASN queried



Announced?

AS Overview (AS1205)

Announced

Holder of this ASN:
JKU-LINZ-AS University Linz,AT

Showing results for AS1205 as of 2014-08-13 08:00:00 UTC

source data embed code permalink info

Geoloc (AS1205)

Map Satellite

Map Data Terms of Use Report a map error

Geoloc details

Data is based on MaxMind's GeoLite City data set and valid for the stated query time (see below)

Showing results for AS1205 as of 2014-08-01 00:00:00 UTC

source data embed code permalink info

Registry Browser (AS1205)

Last updated on 2014-05-27 at 11:47:51 UTC. Show more

aut-num: AS1205

as-name JKU-LINZ-AS
org ORG-JKU1-RIPE
descr University Linz
admin-c ULAC1-RIPE
tech-c ULNA1-RIPE
mnt-by AS1205-MNT
mnt-by ACONET-LIR-MNT

Showing results for AS1205 as of 2014-08-13 13:49:15 UTC

RIPE NCC members can access historical information by signing in with their LIR's RIPE NCC Access account.

source data embed code permalink info

Routing Status (AS1205)

At 2014-08-13 08:00:00 UTC, AS1205 was visible to 100% of 97 IPv4 and 2% of 95 IPv6 RIS full peers.

First ever seen as origin announcing 193.186.172.0/22, on 2004-01-03 00:00:00 UTC.

Originated IPv4 prefixes: 3
Originated IPv6 prefixes: 0
Observed BGP neighbours: 2
Address space announced (IPv4): 67584 IPs
Address space announced (IPv6): equiv. to 0 /48s

Advanced Settings

Compare to 1 week earlier | ☒ Exclude low visibility routes

Showing results for AS1205 as of 2014-08-13 08:00:00 UTC

Results exclude routes with very low visibility (less than 3 RIS peers seeing).

Given query time (2014-08-13 08:00:00 UTC) has been changed because it is earlier than the time there is data available for!

source data embed code permalink info

The rest is the same
as for a prefix

BGPlay



- See how your network is routed
 - Announcements
 - Withdrawals
 - Path changes
- BGPlay shows routing history
 - Animated graphic
 - Highly interactive

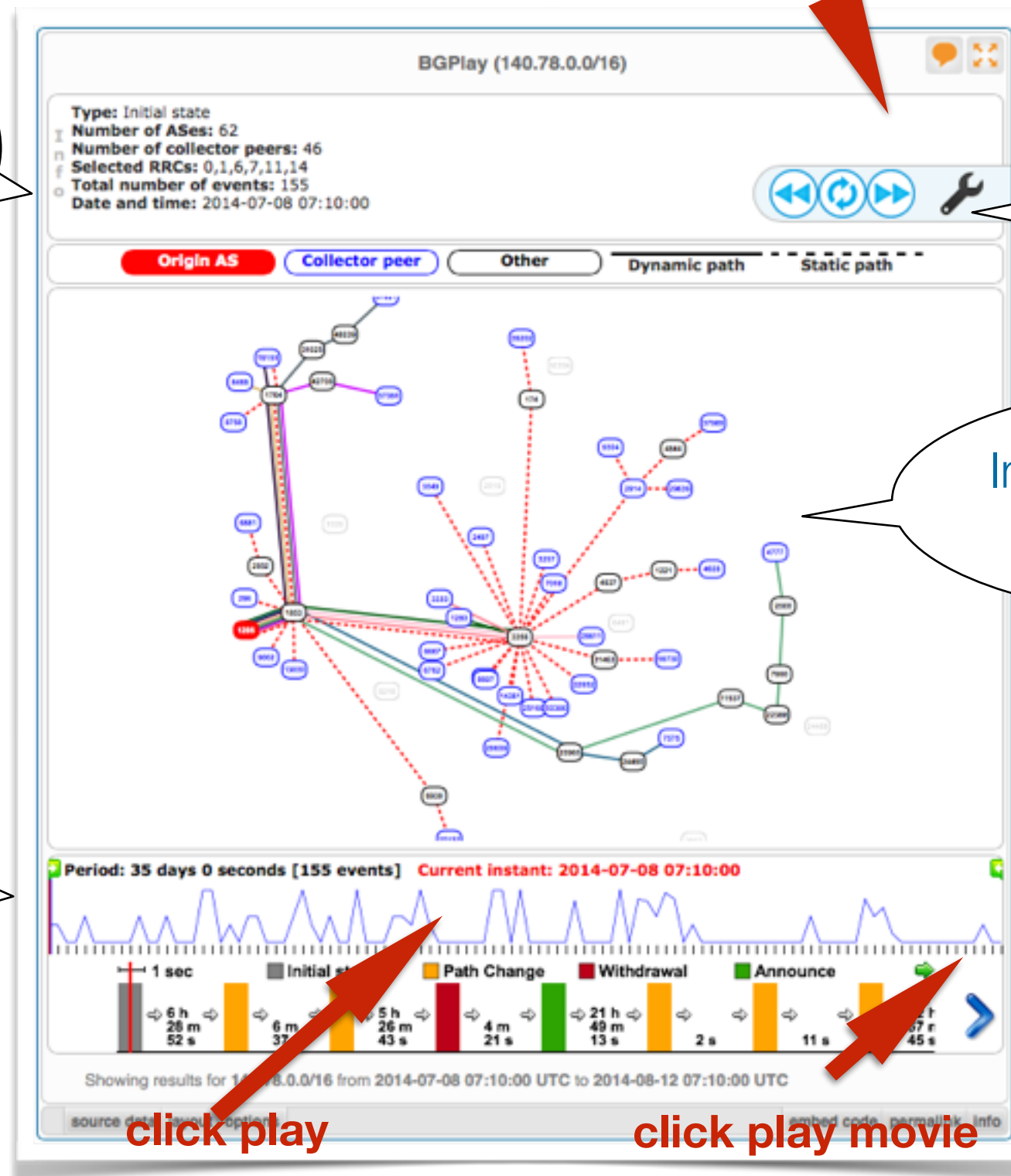
<https://stat.ripe.net/widget/bgplay>

BGPlay



BGP event, ASN
or ASN path details

Control timeline



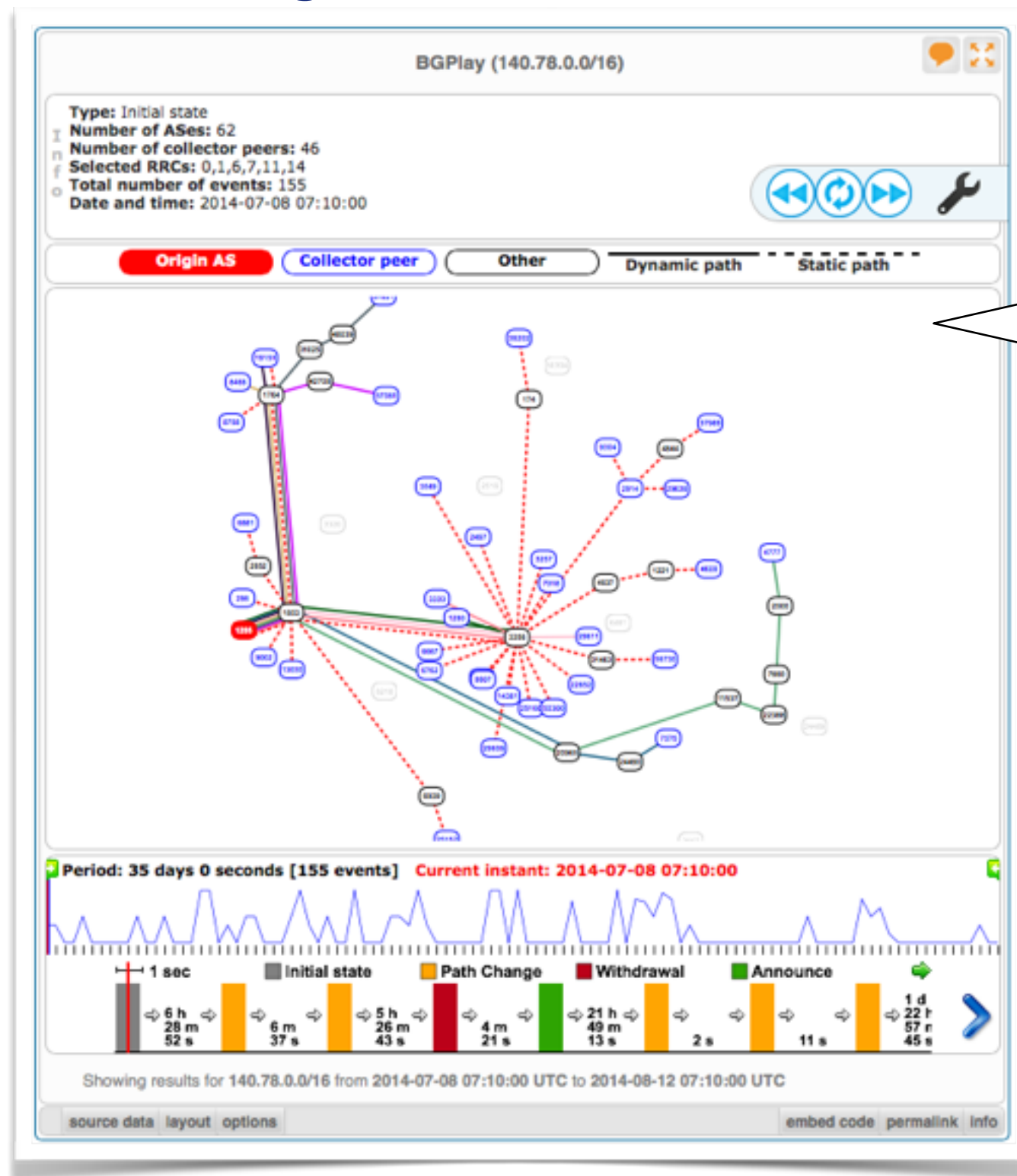
Control panel:

- Covered time period
- RRC selection

Interactive animated
graph

Detailed timeline
with events

BGPlay



Examples: (2013/8/28-30)

- Prefix with announcements & withdrawals:
84.205.64.0/24
- Check IPv6 connectivity:
2001:67c:2e8::/48
- Multi-homed prefix:
199.7.80.0/24
- BGP hijacking
2008-02-28: 208.65.153.0/24
Youtube traffic by Pakistan Telecom
AS17557
- Blackholing:
193.33.96.64

Prefixes visible for this ASN



Announced Prefixes (AS1205)

Show 10 entries Search:

Prefix	First Seen ?	Last Seen ?
193.186.176.0/22	2014-07-30 08:00:00 UTC	2014-08-13 08:00:00 UTC
193.186.172.0/22	2014-07-30 08:00:00 UTC	2014-08-13 08:00:00 UTC
140.78.0.0/16	2014-07-30 08:00:00 UTC	2014-08-13 08:00:00 UTC

Showing 1 to 3 of 3 entries

[Click here](#) to load the entire history, starting from 2004-01-01 00:00 UTC!

[Advanced Settings](#)

☒ Exclude low visibility prefixes

Showing results for AS1205 from 2014-07-30 08:00:00 UTC to 2014-08-13 08:00:00 UTC

Results exclude routes with very low visibility (less than 3 RIS peers seeing).

source data embed code permalink info

IPv4 vs IPv6?
Sort by prefix
or
Search "." vs "::"

Time period
shown in widget
Default:
last two weeks

Announced Prefixes: useful for ASN



Announced Prefixes (AS1205)

Show 10 entries Search:

Prefix	First Seen ?	Last Seen ?
193.186.176.0/22	2004-01-22 16:00:00 UTC	2014-08-13 08:00:00 UTC
193.186.172.0/22	2004-01-01 00:00:00 UTC	2014-08-13 08:00:00 UTC
193.171.8.0/24	2008-12-09 08:00:00 UTC	2008-12-11 16:00:00 UTC
193.171.32.0/20	2008-12-09 08:00:00 UTC	2008-12-11 16:00:00 UTC
193.171.200.0/21	2008-12-09 08:00:00 UTC	2008-12-11 16:00:00 UTC
193.170.32.0/21	2008-12-09 08:00:00 UTC	2008-12-11 16:00:00 UTC
140.78.0.0/16	2004-01-01 00:00:00 UTC	2014-08-13 08:00:00 UTC

Showing 1 to 7 of 7 entries

Advanced Settings

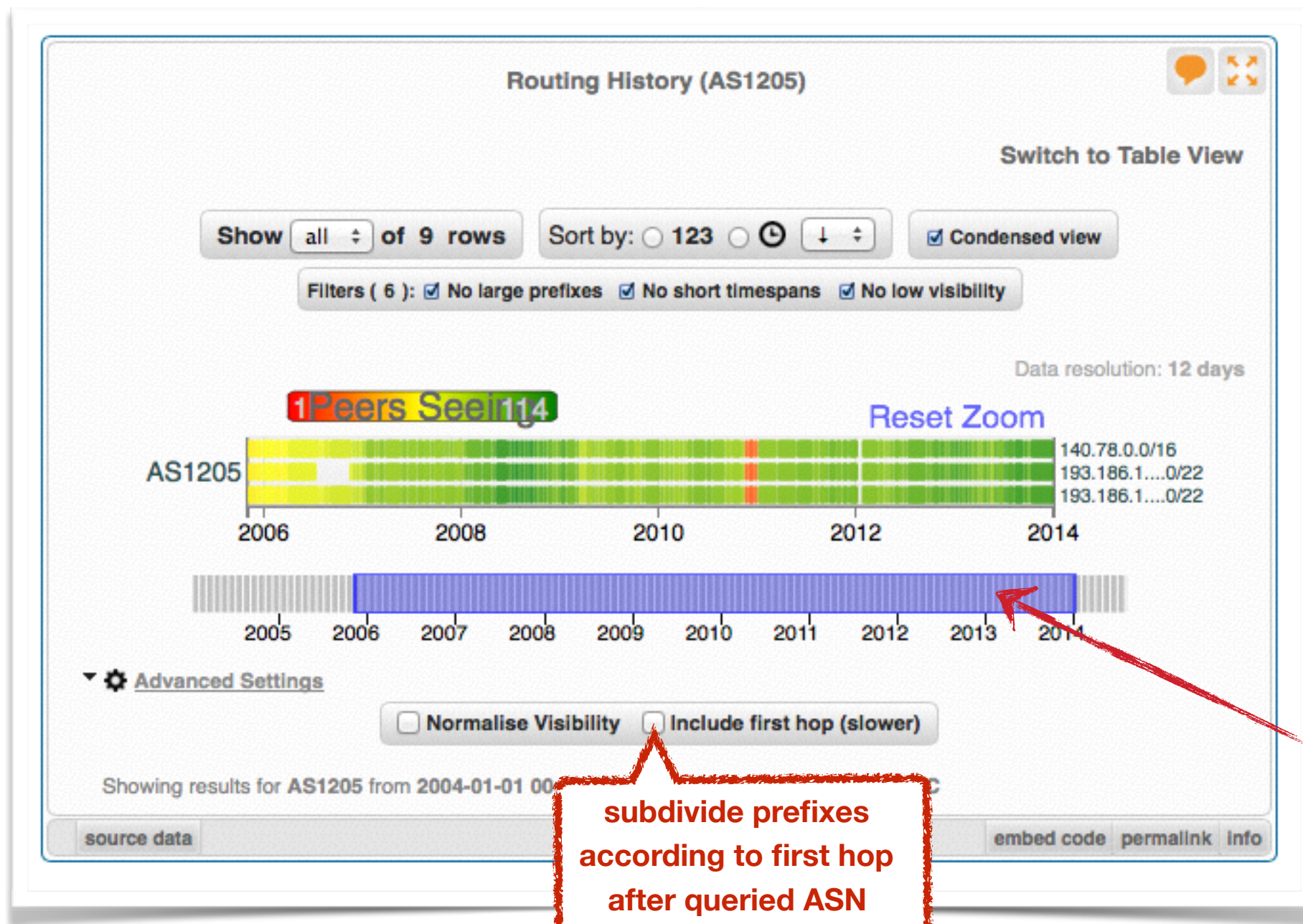
☒ Exclude low visibility prefixes

Showing results for AS1205 from 2004-01-01 00:00:00 UTC to 2014-08-13 08:00:00 UTC

i Results exclude routes with very low visibility (less than 3 RIS peers seeing).

source data embed code permalink info

History of prefixes announced by ASN



Time scale selection



Exercise B

BGPlay

Refer to the exercise booklet



Reporting Abuse

Section 6

Reporting Abuse



DON'T PANIC!

What to do if your network is attacked?

- Spam or unauthorised access?
 - Find IP in message headers or logs
- Want to contact their admin?
 - Find the correct email for reporting abuse
- RIPE Database
 - Contact details for every ASN and IP address
 - In Europe, the Middle East and parts of Central Asia

<https://labs.ripe.net/Members/cteusche/finding-anti-abuse-contact-information-with-ripestat>

Reporting Abuse



- Take action with the Abuse Contact Finder

<https://stat.ripe.net/abuse>

RIPEstat Abuse Contact Finder

The RIPEstat Abuse Contact Finder may be able to help you find the email address that should be used to report network abuse originating from a particular IP address.

- You can learn more about network abuse in general and what you can do to stop it on the RIPE NCC's [Abuse Information page](#).
- You can learn more about how the RIPEstat Abuse Contact Finder works and how to report abuse in [this tutorial](#) on RIPE Labs.

RIPEstat

Abuse Contact Finder BETA

Enter an IP address

source data embed code permalink info

For regular RIPEstat users: this widget, of course, can also be found on the regular result page in the "Anti Abuse" tab.

**In -depth information
about abuse**

Enter IP address

Reporting Abuse



Abuse Contact Finder (2001:67c:2e8::/48) BETA

Email-Contact

abuse@ripe.net

Contact-Quality-Rating

★★★★★ (5/5)

This contact can be used to report abuse.

☐ Show Complete Details
☐ Info for Resource Holders

Showing results for 2001:67c:2e8::/48 as of 2013-08-30 14:39:00 UTC

i BETA Beta status: Please note that even highly rated contacts can be incorrect

[source data](#) [embed code](#) [permalink](#) [info](#)

Rating of the contact

Email contact to report abuse

Reporting Abuse



Abuse Contact Finder (2001:67c:2e8::/48) **BETA**

Email-Contact

abuse@ripe.net

Contact-Quality-Rating

★★★★★ (5/5)

This contact can be used to report abuse.

☐ Show Complete Details
☐ Info for Resource Holders

Showing results for 2001:67c:2e8::/48 as of 2013-08-30 14:39:00 UTC

BETA Beta status: Please note that even highly rated contacts can be incorrect

source data embed code permalink info

Details about the resource and abuse contact:

☒ Show Complete Details

Details

- Results for

193.0.18.0-193.0.21.255 ¹²
abuse@ripe.net from abuse-contact role

- Special Network Resource Information

This resource has been identified to be related to this information:
RIPE NCC PI Allocation

Held by:
n.a. ¹²

- RIR Information

RIR	RIPE NCC	RIR's Whois	https://apps.db.ripe.net/search/query.html
-----	----------	-------------	---



Exercise C

Handling abuse

Refer to the exercise booklet



Personalising RIPLEstat

Section 6

Create a RIPE NCC Access Account



<https://access.ripe.net>

The screenshot shows the RIPE NCC Access account login page. At the top, there is a header with the RIPE NCC logo and the text "RIPE NETWORK COORDINATION CENTRE". To the right of the logo, there are tabs for "RIPE Database (Whois)" and "Website", and a search bar with the placeholder text "Search the content of this website". Below the header, there is a navigation bar with links: "Manage IPs and ASNs", "Analyse", "Participate", "Get Support", "Publications", and "About Us". The "Publications" link is highlighted. Below the navigation bar, there is a breadcrumb trail: "You are here: Home > Access". The main content area is divided into two columns. The left column contains the text "Sign in using your RIPE NCC Access account" and a link to "create one" if the user doesn't have an account. The right column contains a login form with fields for "Email" (placeholder: "Your email address") and "Password" (placeholder: "Your password"), a "Sign in" button, and a link for "Forgot your password?". Below the login form, there is a yellow box with the text "New: Two-step verification. Learn more...". At the bottom of the page, there is a dark blue footer with social media icons (Facebook, Twitter, LinkedIn, YouTube, and a generic icon) and a list of links: "Home", "Sitemap", "Contact us", "Service Announcements", "Privacy Statement", "Cookies", and "Copyright Statement".

Why personalise RIPEstat?



- If you have recurring lookup tasks that involve different widgets spread over multiple tabs
- Building a “history” of your lookups

Log into RIPE NCC Access Account



The screenshot shows the RIPE NCC website with the following elements:

- Header:** RIPE NCC logo, navigation links (Manage IPs and ASNs, Analyse, Participate, Get Support, Publications, About Us), and a search bar.
- Navigation:** A breadcrumb trail reads "You are here: Home > Access".
- Login Form:** A central form titled "Sign in using your RIPE NCC Access account" with fields for "Email" and "Password", a "Sign in" button, and a "Forgot your password?" link.
- Footer:** Social media links (Facebook, Twitter, LinkedIn, YouTube, RSS) and a list of links (Home, Sitemap, Contact us, Service Announcements, Privacy Statement, Cookies, Copyright Statement).
- Red Arrow:** A red arrow points from the "Login" button in the top right corner to the login form.

Below the login form, the website content is visible:

- Left Sidebar:** A list of links for "RIPEstat Home", "About RIPEstat", "Documentation", and "Use Cases". Below this, it shows "Your IP address is: 193.0.20.230" and "System Statistics" with a count of "246,162" requests in the last full hour.
- Main Content:** A "Search RIPEstat" section with a search bar and a "Search" button. Below the search bar, it displays "Your network: AS3333, 193.0.20.0/23" and "e.g.: IPv4 prefix/range, IPv6, ASN".
- Bottom Section:** A banner for "RIPEstat Data API" with the text "RESTful. Versatile. And all about data." and an image of a document.

MyView



- Create custom views
 - Click the “MyView” button
 - Drag and drop the widgets you want on the MyView tab
- Created under “ASN” or “IP”

MyView



The screenshot shows the MyView interface. On the left is a sidebar with a list of widget categories and their counts: At a Glance (4), Routing (11), DNS (1), Anti Abuse (1), Database (5), Geographic (2), Activity (2), and Suggestions (1). Below these is a '+ MyView ?' button, which is circled in red. Underneath is a 'MyView-Test1' section with a gear icon and a '(2)' count. A red callout box points to this section with the text 'Newly created MyView'. The main area of the interface displays the message 'This view is empty :(Add content by dragging a widget onto the tab of this view.' Below this message is a preview of a 'Resource Overview' widget, which is also circled in orange. The preview shows details for 'RIPE-NCC-AS - Reseaux IP Europeens Network Coordination Centre (RIPE NCC)'. At the bottom of the main area, there is a link to 'custom views'.

permalink

At a Glance (4)

Routing (11)

DNS (1)

Anti Abuse (1)

Database (5)

Geographic (2)

Activity (2)

Suggestions (1)

+ MyView ?

MyView-Test1 (2)

MyViewTab (2)

This view is empty :(

Add content by dragging a widget onto the tab of this view.

Resource Overview (AS)

RIPE-NCC-AS - Reseaux IP Europeens Network Coordination Centre (RIPE NCC)

Showing results from 2013-04-23 00:00:00 UTC to

source data

Registry Browser (AS)

Last updated on 2012-04-17 at 10:12:15

aut-num: AS3333

as-name RIPE-NCC-AS

descr Reseaux IP Europeens Network Coordination Centre

org ORG-RIEN1-RIPE

admin-JDR-RIPE

For more information on custom views, please go to [custom views](#).

MyViews are only visible to you.
The option to share your views
will be available soon!

Customise MyView



Re-order widgets
as you like

- Rename
- Re-order
- Control visibility
- Remove

The screenshot displays the MyView interface. On the left is a sidebar with a list of widget categories: 'At a Glance' (4), 'Routing' (11), 'DNS' (1), 'Anti Abuse' (1), 'Database' (5), 'Geographic' (2), 'Activity' (2), and 'Suggestions' (1). Below these is a '+ MyView' button and a list of custom views: 'MyView-Test1' (2) and 'Monitor-2' (2). The main area shows two widgets. The top widget, 'AS Overview (AS1205)', has a green 'Announced' status bar and displays information about the ASN holder, 'JKU-LINZ-AS University Linz,AT', and its allocation details. The bottom widget, 'Routing Status (AS1205)', shows a yellow warning bar indicating visibility to 100% of 97 IPv4 and 2% of 95 IPv6 RIS full peers, along with other statistics like 'First ever seen as origin announcing 193.186.172.0/22, on 2004-01-03 00:00:00 UTC'.

Visibility of MyView



- MyView is only accessible after you have queried an ASN or IP
- A MyView created after an ASN query is only **visible** for other ASN queries
- A MyView created after IP query is only **visible** for other IP queries
- This can be changed via settings

Controlling Visibility



Monitor-2 was created after an ASN query

Monitor-2's Settings

Resource Properties

Simplified Advanced

For what resource type should this view be visible:
(Change by clicking on property)

☒ ASN ☐ IP

☐ Hostname ☐ Country

☒ view will be shown for resource type (e.g. 'ASN')

☐ view will **not** be shown for resource type (e.g. 'ASN')

Ok

You can change visibility, to make Monitor-2 available for IP range queries

MyView Summary



- RIPE NCC Access login required
- Customised selection of widgets
- It's like an extra tab, specifically for your queries
- By default, available for one type of resource (ASN or IP)
- Can't be shared



Exercise D

MyView

Refer to the exercise booklet



Comparing Networks

Section 8

Why compare networks?



- Want to peer with AS-X?
 - Learn by opening multiple widgets about AS-X
- Choosing upstream ?
 - Compare AS-X with AS-Y by opening same widget loaded with two different ASNs
- Internet outage in a country?
 - Open multiple country-related widgets in same view

https://labs.ripe.net/Members/suzanne_taylor_muzzin/ripestats-multiple-widget-and-resource-comparison

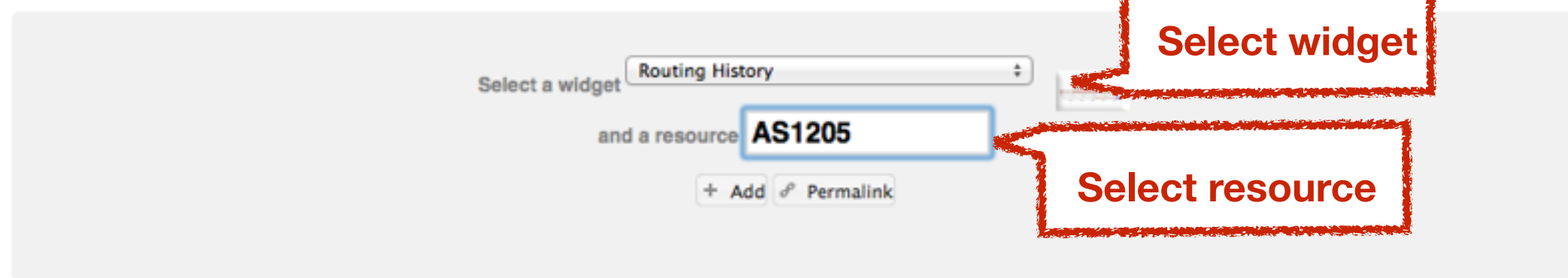
How to compare



- Compare results in different widgets



Select up to six different widgets from the list to compare at one time. Different resources can be queried for each widget.



Compare results



1 Select "Routing History" widget

2 enter "AS3333"

3

Compare Results

Select up to six different widgets from the list to compare at one time. Different

Select a widget: Routing History

and a resource: as3333

+ Add / Permalink

Routing History (as3333)

Switch to Table View

Show all of 9 rows

AS3333

Routing History (as1205)

Switch to Table View

Show all of 9 rows

AS1205

Showing results for AS3333 from 2004-01-01 00:00:00 UTC to 2014-08-15 00:00:00 UTC

Showing results for AS1205 from 2004-01-01 00:00:00 UTC to 2014-08-15 00:00:00 UTC

Prefix Size Distribution (as1205)

by number of
Prefixes Addresses

IPv4 1 (100%)

IPv6 2

IPv6 1

* Advanced Settings

Showing results for AS1205 as of 2014-08-15 08:00:00 UTC

Results exclude routes with very low visibility (less than 3 RIS peers seeing).

Compare results



Compare Results

Select up to six different widgets from the list to compare at one time. Different resources can be queried for each widget.

Select a widget **Routing History** and a resource **as3333**

+ Add **Permalink**

Use the permalink to share this page

<https://stat.ripe.net/special/compare-results#widget-container-0.resource=as1205&widget-container-0.widgetType=prefix-size-distribution&widget-cont>

Routing History (as3333)

Switch to Table View

Show **all** of 9 rows

Peers Seen: 114

Reset Zoom

AS3333

Showing results for AS3333 from 2004-01-01 00:00:00 UTC to 2014-08-15 00:00:00 UTC

Routing History (as1205)

Switch to Table View

Show **all** of 9 rows

Peers Seen: 114

Reset Zoom

AS1205

Showing results for AS1205 from 2004-01-01 00:00:00 UTC to 2014-08-15 00:00:00 UTC

Prefix Size Distribution (as1205)

by number of ☒ Prefixes ☐ Addresses

/16 (v4): 1

Share via
"Permalink"

Compare resources summary



- No login required
- Add widgets AND input query for each widget (ASN, IP, etc.)
- It is a result page with widgets and query results
- Share it via a permalink

Comparing countries in one widget



- Compare the growth of ASNs in DE and NL
- See IPv6 adoption rate in four countries at the same time
- Analyse IP hijacking with 'BGP Update Activity Widget'

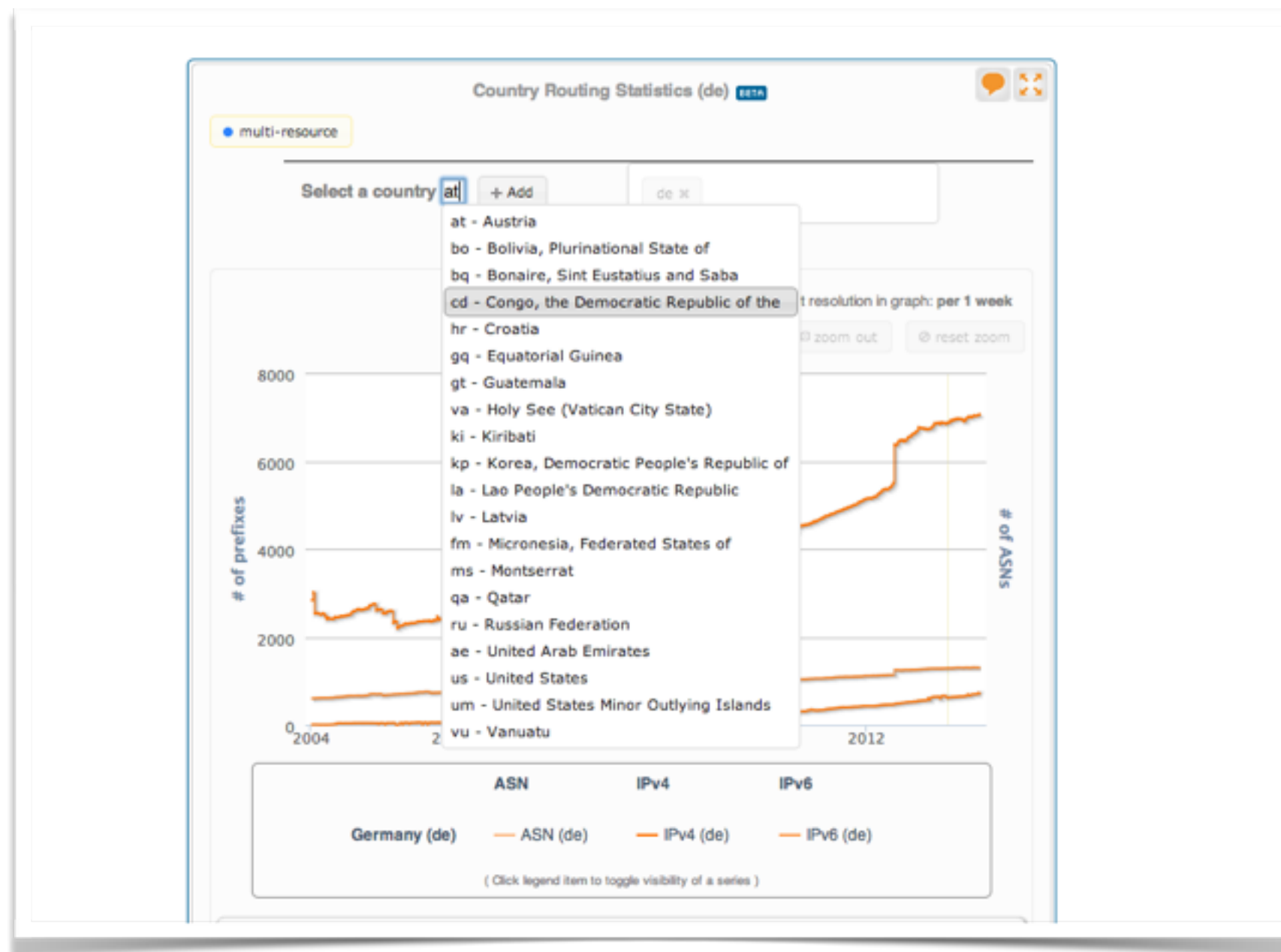
<https://labs.ripe.net/Members/wilhelm/bgp-leaks-in-indonesia>

https://labs.ripe.net/Members/suzanne_taylor_muzzin/new-in-ripestat-in-widget-comparison-and-monitoring

In-widget comparison



- Country Routing Statistics





Exercise E

Comparing Results

Refer to the exercise booklet



Exercise F

RIPEstat Use Cases

Use Cases



- How can you see whether someone has hijacked your prefixes?
- How can you see whether you had an outage?



Questions



christian.teuschel@ripe.net
@cteuschel



RIPE Atlas

Overview 2 - RIPE Atlas



RIPE Atlas

- Introduction to RIPE Atlas
- What you can get from RIPE Atlas as a visitor
- Exploring public probes
 - *Live Demo*
- Finding public measurements
 - *Exercise F: Analyse results*
- Creating a measurement
 - *Exercise G: Create a measurement*
- Network Monitoring
 - *Exercise H: Setting up 'Status Checks'*
- *More RIPE Atlas features - optional*
- How to host a probe
- ~~Advanced topics - not part of this workshop~~
 - ~~Use cases and success stories~~
 - ~~RIPE Atlas anchors~~
 - ~~RIPE Atlas community~~




Introduction to RIPE Atlas

Section 9

RIPE Atlas





WIKIPEDIA
The Free Encyclopedia

[Main page](#)
[Contents](#)
[Featured content](#)
[Current events](#)
[Random article](#)
[Donate to Wikipedia](#)
[Wikipedia store](#)

Interaction

- [Help](#)
- [About Wikipedia](#)
- [Community portal](#)
- [Recent changes](#)
- [Contact page](#)

RIPE Atlas – Wikipedia, the free encyclopedia

W https://en.wikipedia.org/wiki/RIPE_Atlas Reader

Apple iCloud Facebook Twitter Wikipedia Yahoo! News Popular

Becha 0 Talk Sandbox Preferences Beta Watchlist Contributions Log out

Article **Talk** Read Edit source Edit More Search


RIPE Atlas

From Wikipedia, the free encyclopedia

RIPE Atlas is a global, open, distributed Internet measurement platform, consisting of thousands of measurement devices that measure Internet connectivity in real time.

Contents [hide]

- History
- Technical details
- Community
- Research papers
- Similar projects
- References
- External links
- Categories



Definition



- RIPE Atlas = global active measurements platform
- Goal: View Internet reachability
- Probes hosted by volunteers
- Measurements performed towards root name servers
 - Visualised as Internet traffic maps
- Users can also run customised measurements
 - ping, traceroute, DNS & SSL/TLS, NTP and HTTP*

RIPE Atlas in numbers: April 2016



- 9,300+ probes connected
- 350+ active probes in SEE countries
- Countries: 181
- Originating ASNs:
3,398 (IPv4) = 6,4% coverage
1,246 (IPv6) = 11,21% coverage

Overview on SEE countries

	Connected	Disconnected	Anchor
Albania (AL)	19	7	0
Slovenia (SI)	46	5	1
Serbia (RS)	42	6	2
Kosovo (XK)	0	0	0
Croatia (HR)	43	6	0
Macedonia (MK)	16	4	0
Romania (RO)	56	9	1
Bulgaria (BG)	81	18	3
Bosnia and Herzegovina	9	3	0
Montenegro (ME)	4	0	0

Measurements Devices



- v1 & v2: Lantronix XPort Pro
- v3: TP-Link TL-MR3020 powered from USB port
 - Does not work as a wireless router
 - Same functionality as the old probe
- RIPE Atlas anchor: Soekris net6501-70



Most Popular Features



- Six types of measurements: ping, traceroute, DNS, SSL/TLS, NTP and HTTP (to anchors)
- APIs and CLI tools to start measurements and get results
- Streaming data for real-time results
- New: “Time Travel”, LatencyMON, DomainMON
- Status checks (Icinga & Nagios)

Probe Photos



Contacting RIPE Atlas



- <https://atlas.ripe.net>
- Users mailing list: ripe-atlas@ripe.net
- Articles & updates on RIPE Labs:
<https://labs.ripe.net/atlas>
- Questions and bugs: atlas@ripe.net
- Twitter: [@RIPE_Atlas](https://twitter.com/RIPE_Atlas) and [#RIPEAtlas](https://twitter.com/hashtag/RIPEAtlas)



What You Can Get From RIPE Atlas As A Visitor

Section 10

Internet Traffic Maps



RIPE Atlas <<

About RIPE Atlas >

Get Involved >

Probes and Anchors >

Measurements, Maps and Tools >

Measurements

Internet Maps

Tools

Resources >


RIPE NCC Members

My Atlas >

Staff Pages >


Internet Maps

DNS Root Instances




Shows, for each probe, which root DNS server instance the probe ends up querying, when they ask a particular root server. In other words, it shows the "gravitational radius" for root DNS server instances.

Comparative DNS Root RTT




Shows a comparison of response time for DNS SOA queries to all the root DNS servers. For each probe, a marker shows the "best" root server with colour identifying the related minimum response time.

Root Server Performance




This map shows the reply time to the SOA query of a particular root DNS server, over the selected transport protocol (UDP, TCP or comparison of the two) for each probe.

RTT to Fixed Destinations



Shows the colour coding for the RTT value for the particular destination for each probe. The minimum / average / maximum values are based on standard "ping" measurements.

Reachability of Fixed Destinations

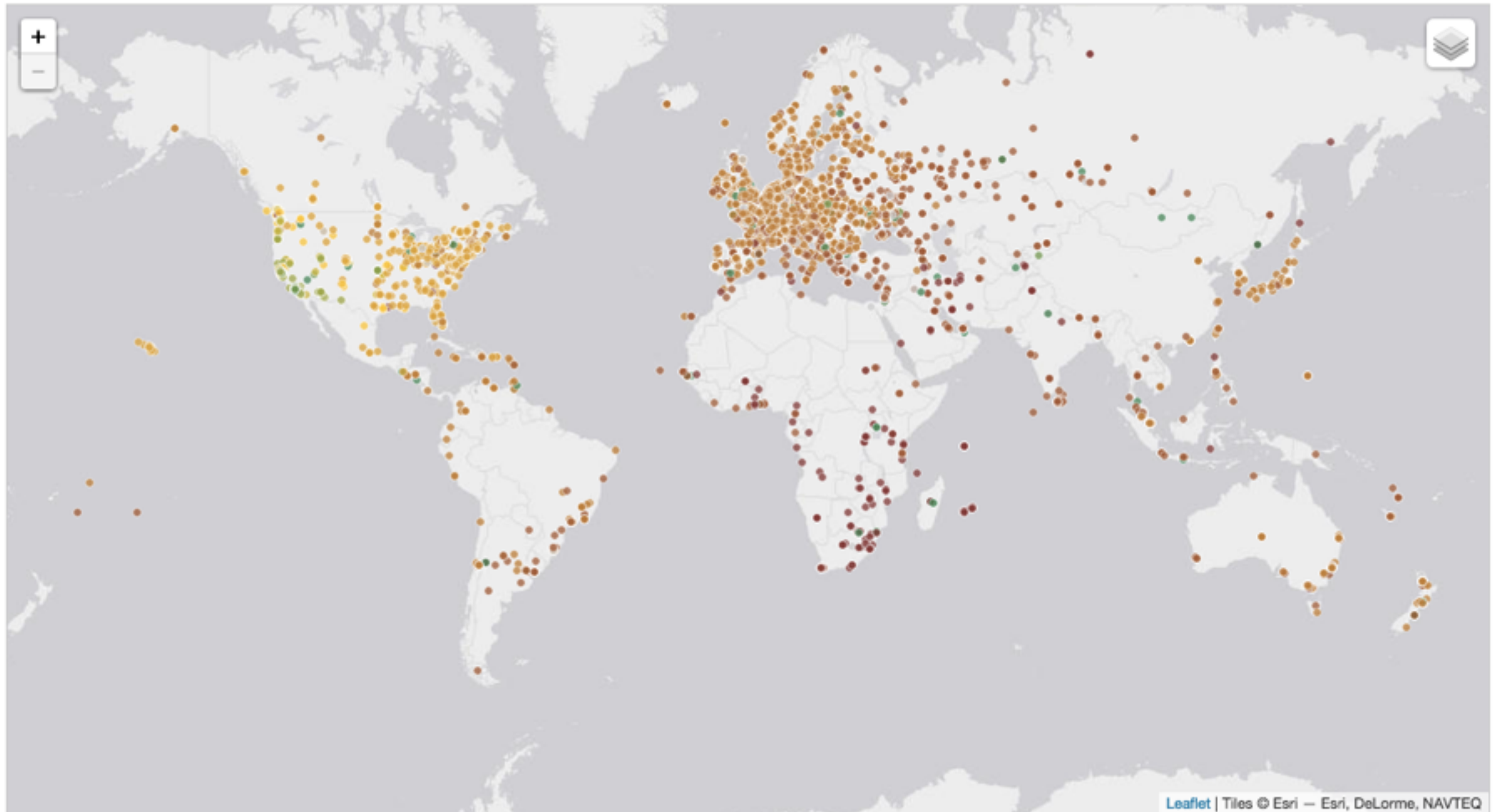


Shows if the particular fixed destination is reachable or not from each probe. Red markers indicate that the specific destination for these probes are unreachable and green reachable.

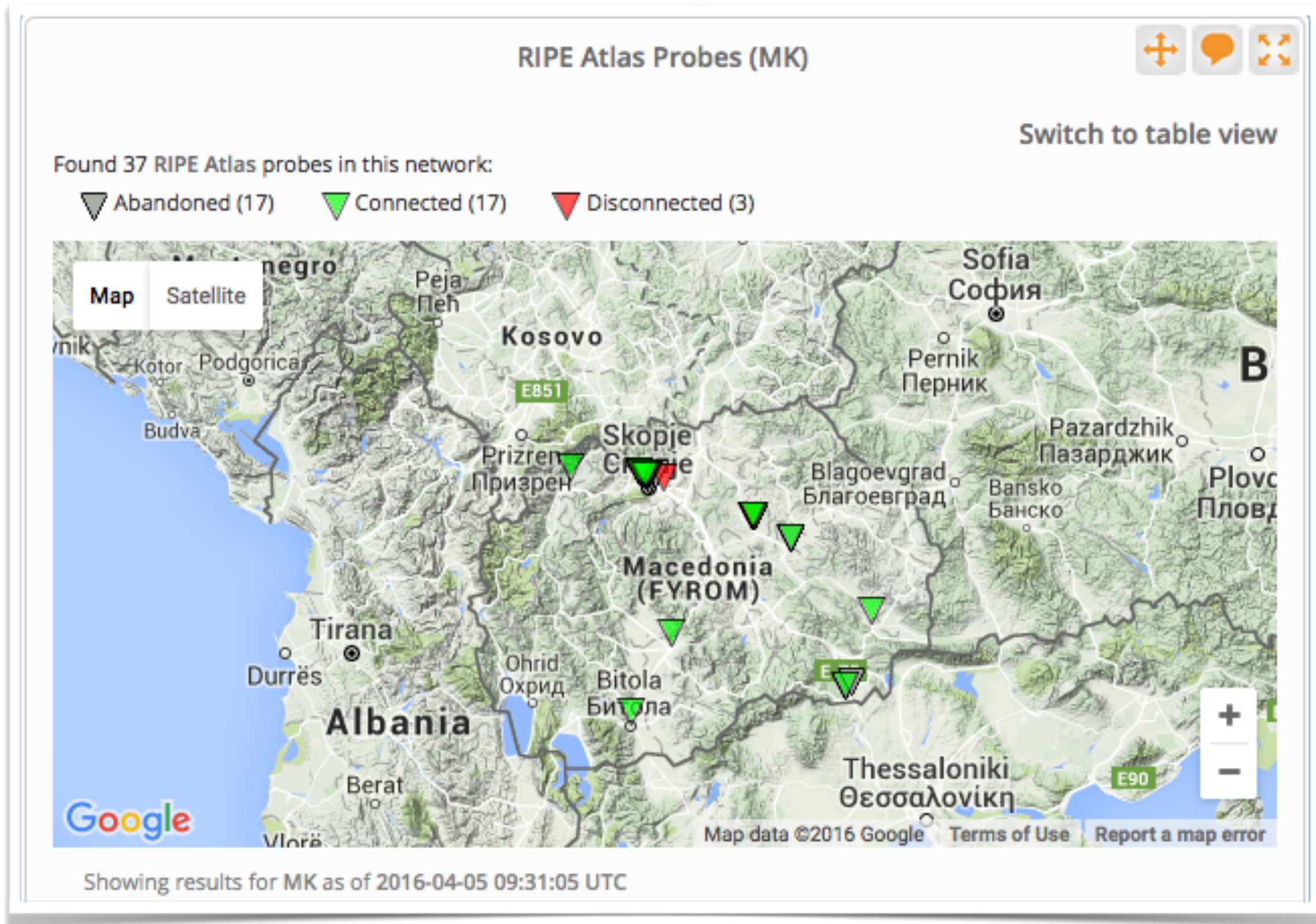
Where is B-root?



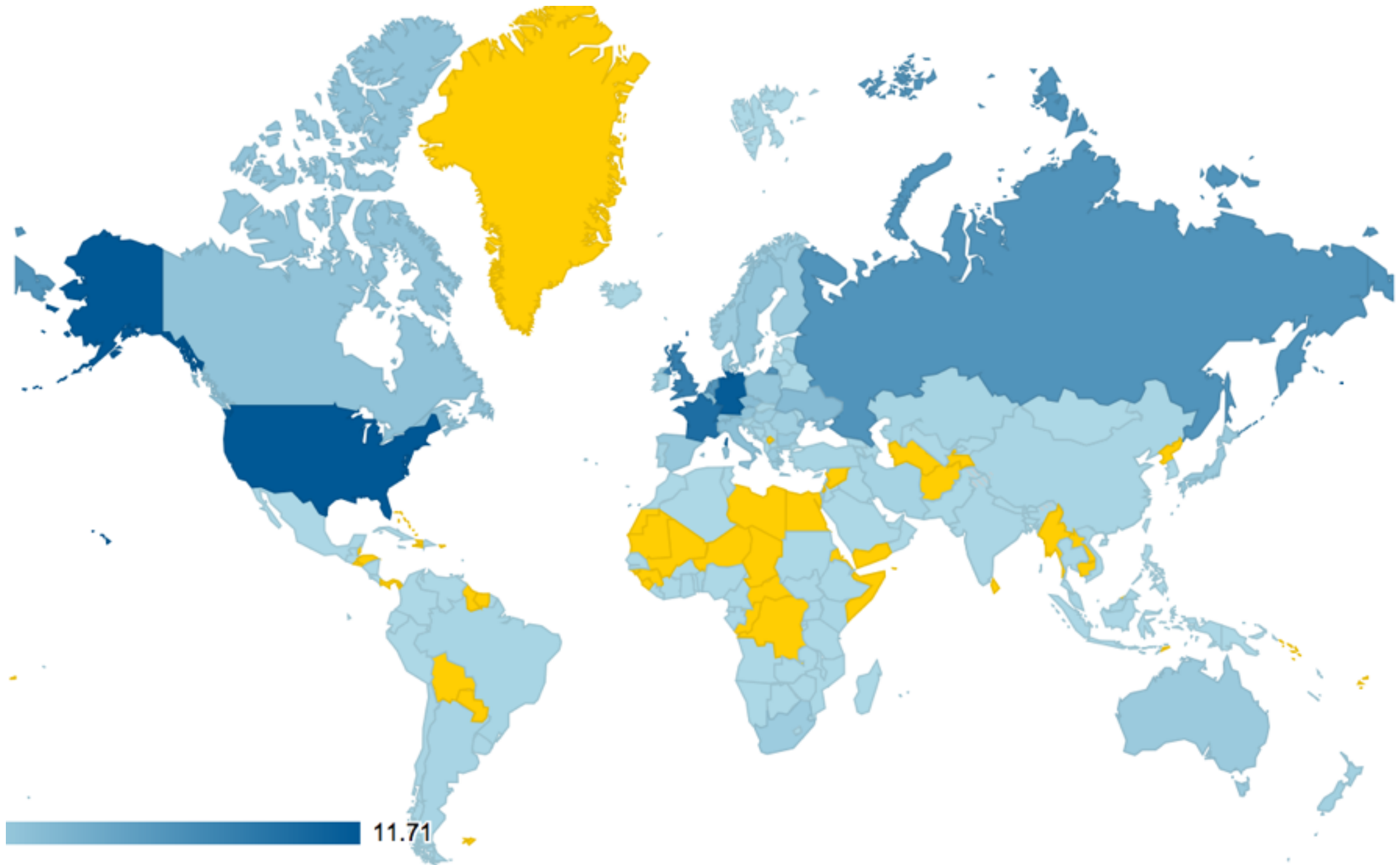
We display measurement results from the last hour only.



Probes per ASN (in RIPEstat)



Where we want to place probes



Articles, papers, use cases, experiences



0 comments **RIPE Atlas: Measurements With Tagged Probes Coming Soon**
Suzanne Taylor Muzzin — Sep 12, 2014 12:05 PM


User Tags: Cable, Home, NAT
System Tags: V1, Resolves A Correctly, Resolves AAAA Correctly, IPv4 Works

We've been busy working on a number of developments, and we're really excited about particular that will be ready soon: creating customised measurements using tagged probes. Learn more about it - along with some other recent additions - and let us know what you

Tags: atlas, measurements, tools

» Read

0 comments **Time Warner Cable Outage**
Emile Aben — Aug 28, 2014 04:50 PM



The Time Warner Cable network suffered an outage on 27 August 2014 between approximately 9:40 and 10:55 UTC. We looked at some interesting details of this outage using RIS and RIPE Atlas.

Tags: atlas, routing

» Read


0 comments **RIPE Atlas Midsummer Update 2014**
Fatemah Mafi — Jul 24, 2014 05:30 PM



Since RIPE 68 in Warsaw, the RIPE NCC has developed and released Atlas. We would like to inform the community of what we've been working on and how you can benefit from the RIPE Atlas service.

Tags: atlas, statistics

0 comments **How RIPE Atlas Helped Wikipedia Users**
Emile Aben — Jul 09, 2014 12:25 PM

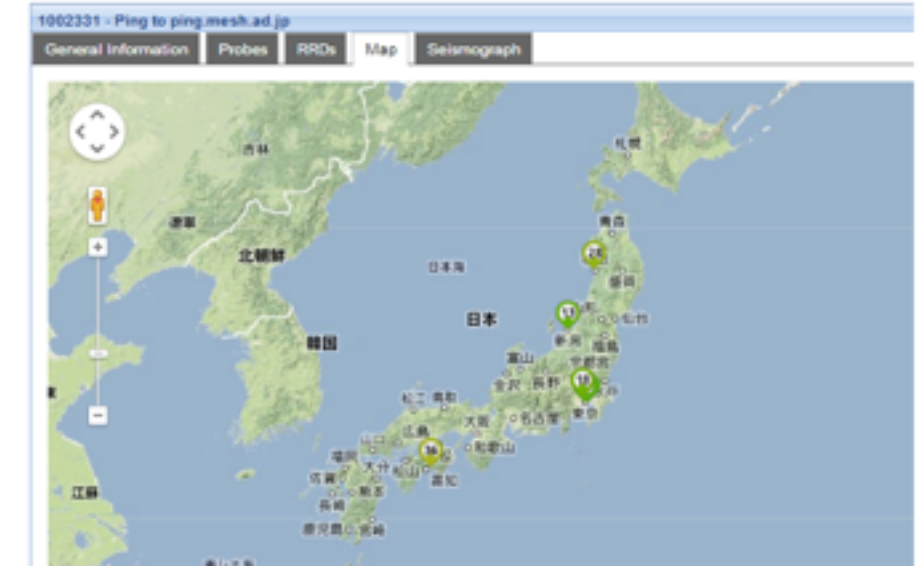


Engineers from the Wikimedia Foundation and the RIPE NCC recently launched a project to measure the latency of Wikimedia sites for users worldwide in order to find ways to decrease latency and improve performance for users around the world.

標準以外の計測先の追加

任意の宛先 (UDM) を登録して計測を行うことも可能です。My Atlas>Measurements>New リックして計測先を作成します。任意の宛先への計測には「クレジット」が必要になります。プロの稼働時間に応じて (24時間連続稼働すると21,600クレジットが貯まる) 溜まっていき、U TraceRouteを行う度に消費 (pingは1回につき3クレジットを消費) されます。

biglobe (ping.mesh.ad.jp) へのUDM



1 پست • صفحه 1 از 1

aiv!vid
Information and Communications Technologies

Khoramyar

پست ها : 122
تاریخ عضویت: شنبه ۹ فروردین ۱۳۹۴
pm 12:52 2013
times 52 :Has thanked
times 57 :Been thanked

پروژه بین المللی سنجش اینترنت - رایب اطللس

توسط Khoramyar = شنبه ۱۸ مارس ۱۳۹۴ ۱:۴۲ pm

سازمان رایب - <http://www.ripe.net> - به عنوان یکی از پنج سازمان متولی منابع اینترنت جهانی پروژه بسیار جالب و جذابی را به نام پروژه اطللس شروع کرده است.

وب سایت رسمی پروژه اطللس: <https://atlas.ripe.net>

کاوشگران کوچک شبکه:

سازمان رایب، با تغییر دادن نرم افزار مودم های کوچکی از شرکت TPLink آنها را به Probe ها یا کاوشگر های کوچکی تبدیل کرده و آنها را به رایگان در اختیار متقاضیان میگذارد. متقاضیان از کشور های مختلفی آنها را دریافت میکنند و به اینترنت های منازل و محل کارشان متصل میکنند و این کاوشگرها از نزدیک ترین مودم به پروتوکول DHCP آی پی دریافت کرده و از خط اینترنت با مراکز سنجش رایب تماس میگیرند. مراکز سنجش رایب، به صورت ریموت به این کاوشگر ها دستور میدهند که چه سنجش هایی را انجام دهند.

این سنجش ها شامل دستور های ساده شبکه مثل Ping - Traceroute و چند سنجش دیگر مثل DNS و امتال آنها است.

عکس یک کاوشگر رایب اطللس:



Looking Up Public Probes

Section 11

Searching for probes

- <https://atlas.ripe.net/probes/>



Filter based on
ASN, country,
location...

The screenshot shows the RIPE NCC website's 'Probes' page. At the top, there's a navigation bar with links like 'Manage IPs and ASNs', 'Analyse', 'Participate', 'Get Support', 'Publications', and 'About Us'. Below this, a breadcrumb trail reads 'You are here: Home > Analyse > Internet Measurements > RIPE Atlas > Probes'. The main heading is 'Probes', followed by a description: 'This is a list of all current RIPE Atlas probes, including information specific to each probe. More probes are continually coming online.' There are three links: 'Learn more about probes', 'See the probes map', and 'Apply for your own probe'. Below these is a filter bar with options: 'Filter by id/asn/country/description', 'Any Status', 'IPv4/v6', and 'Any Country'. A 'Public' button and a 'Login to see more' link are also present. The main content is a table of probes.

Id	ASN v4	ASN v6	Country	Description	Connection Status
6175	1103	1103		SURFnet bv	🟢 4 weeks
6146	60781	60781		Leaseweb Network B.V.	🟢 4 weeks
6152	28753	28753		Leaseweb Network B.V.	🟢 4 weeks
6137	3333	3333		nl-ams-as3333-preprod	🟢 4 weeks
6147	33280	33280		Afilias	🟢 4 weeks
6112	197216	197216		Delta Softmedia Ltd	🟢 4 weeks
6161	27843	27843		Optical Technologies	🟢 4 weeks
6142	63403	63403		Afilias	🟢 4 weeks
6008	2607	2607		AA sk-bts-as2607	🟢 4 weeks
6001	3333	3333		AA nl-ams-as3333	🟢 4 weeks

Probe page - Live demo



» You are here: [Home](#) > [Analyse](#) > [Internet Measurements](#) > [RIPE Atlas](#) > [Probes](#) > [Probe #10010](#)

Probe #10010 [\(Register\)](#)

[General](#) [Network](#) [Built-in Measurements](#) [User-defined Measurements](#)


General Information [Edit](#)

Id	10010
MAC Address	F8:D1:11:A9:F3:2C
Architecture	tl-mr3020
Firmware Version	4680 (1070)
Router Type	
Bandwidth Limit	Not set
DNS Entry	Off
Shared Publicly	Yes
User Tags	NAT Chello 200MB
System Tags	V3 Resolves A Correctly Resolves AAAA Correctly IPv4 Works Auto GEOIP city IPv4 Capable IPv4 RFC1918

Connection & Traffic [Edit](#)

☒ Bits/s ☐ Packets/s

Connected Time [3 days, 9 hours](#)

 [3 days, 9 hours](#)

#10010

Firmware 4680

Architecture tl-mr3020

MAC Address F8:D1:11:A9:F3:2C

The displayed location is an automatic best guess of the city based on IP address.

By manually setting a more accurate location you can help to improve the usefulness and correctness of RIPE Atlas.

[Update Location](#)

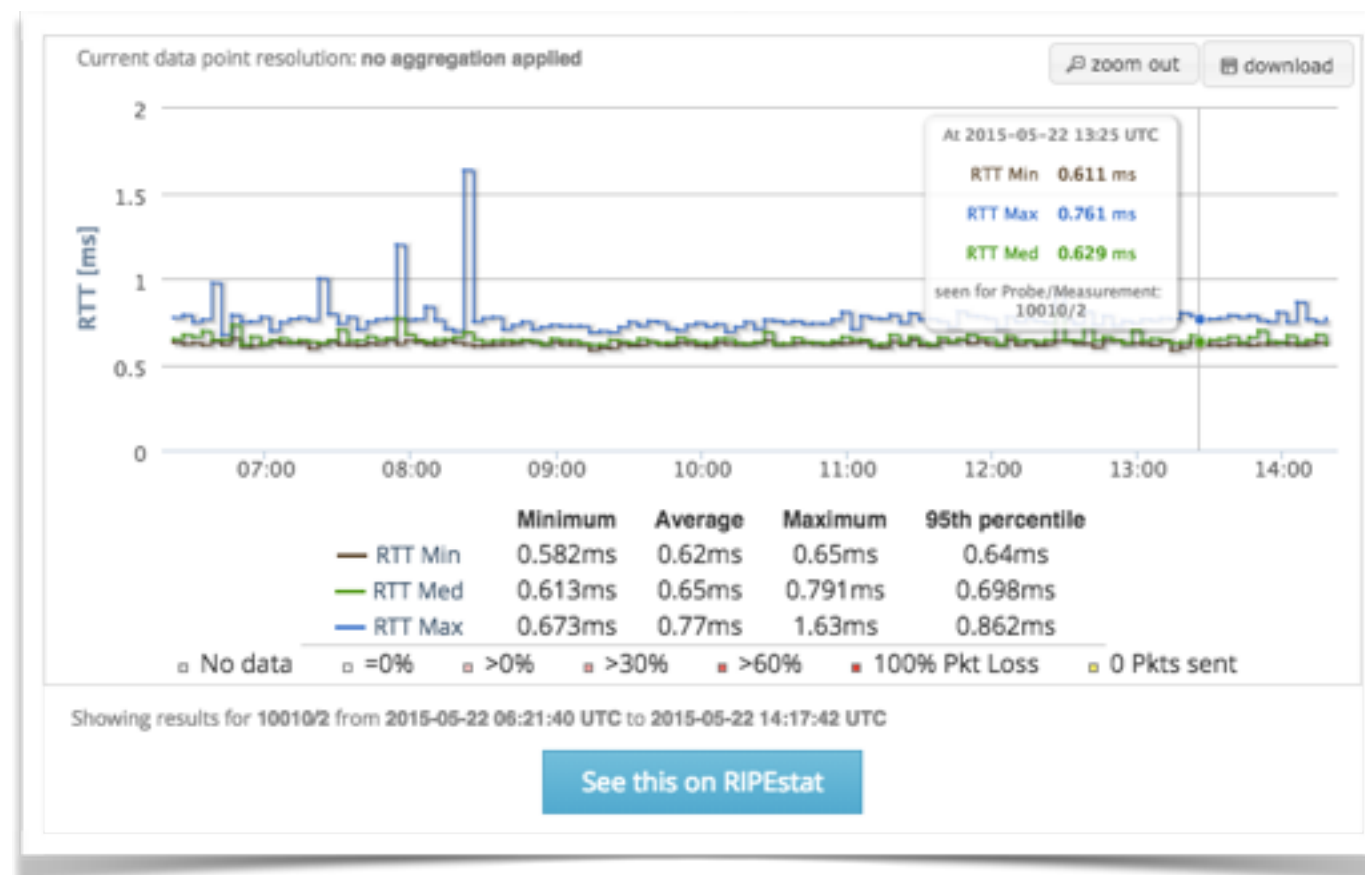
Management Sharing [Edit](#)

Only the probe host is permitted to administer this probe.

Zoomable Ping Graph



- Replace multiple RRDs graphs: zoom in/out in time, in the same graph
- Easier visualisation of an event's details
- Selection of RTT class (max, min, average)





Finding Results of Public Measurements

Section 12

Looking up Measurements Results



- <https://atlas.ripe.net/measurements/>

Manage IPs and ASNs >

Analyse >

Participate >

Get Support >

Publications >

About Us >

RIPE Atlas >>

About RIPE Atlas >

Get Involved >

Probes and Anchors >

Measurements, Maps and Tools >

Measurements

Internet Maps

Tools

Resources >

RIPE NCC Members

Measurements > RIPE Atlas > Measurements

Filter by target and/or description

Any Statu: ▾

IPv4/v6 ▾

All types ▾

Of all time ▾

⌵

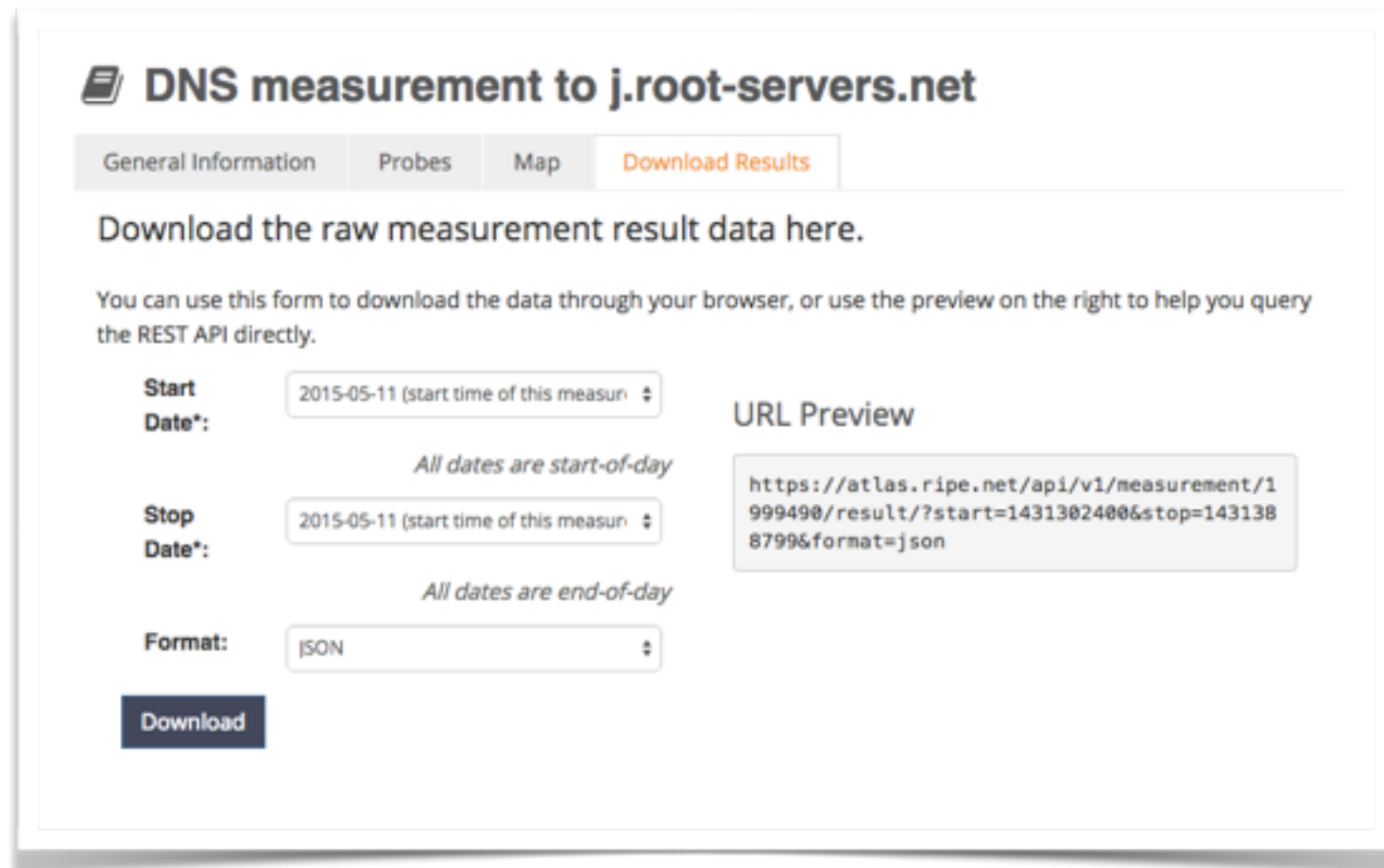
✕

		Description	Probes	Time (UTC)	Status	
		nog.net	de-fra-as5580.anchors.atlas.ripe.net	0	2019-11-14 00:30 No Stop Defined	⚙
1411440	○ ⚡	de-muc-as5539.anchors.atlas...	de-muc-as5539.anchors.atlas.ripe.net	0	2019-08-01 00:15 No Stop Defined	⚙
3625872	⌚ ⚡	uk-lon-as5459.anchors.atlas...	Traceroute measurement to uk-lon-as5459.anchors...	Calculating...	2016-03-17 12:00 2016-03-21 12:00	⚙
3625873	⌚ ⚡	ca-mtr-as852.anchors.atlas....	Traceroute measurement to ca-mtr-as852.anchors....	Calculating...	2016-03-17 12:00 2016-03-21 12:00	⚙
3625874	⌚ ⚡	it-mil-as16004.anchors.atla...	Traceroute measurement to it-mil-as16004.anchor...	Calculating...	2016-03-17 12:00 2016-03-21 12:00	⚙
3625875	○ ⚡	nl-haa-as201682.anchors.atl...	Traceroute measurement to nl-haa-as201682.anch...	Calculating...	2016-03-17 10:42 No Stop Defined	⚙
3625876	○ ⚡	nl-haa-as201682.anchors.atl...	Traceroute measurement to nl-haa-as201682.anch...	Calculating...	2016-03-17 10:42 No Stop Defined	⚙

Downloading Measurements Results



- Click on msm, then “Download”
- Or go to URL
- Or use the API
- Results in JSON
- Libraries for parsing available on GitHub
- <https://github.com/RIPE-NCC/ripe.atlas.sagan>
- <https://github.com/RIPE-Atlas-Community/>



DNS measurement to j.root-servers.net

General Information Probes Map **Download Results**

Download the raw measurement result data here.

You can use this form to download the data through your browser, or use the preview on the right to help you query the REST API directly.

Start Date*: 2015-05-11 (start time of this measur...
All dates are start-of-day

Stop Date*: 2015-05-11 (start time of this measur...
All dates are end-of-day

Format: JSON

Download

URL Preview

`https://atlas.ripe.net/api/v1/measurement/1999490/result/?start=1431302400&stop=1431388799&format=json`

Search for Measurements by Target in RIPEstat



RIPEstat — Internet Measurements and Analysis

https://stat.ripe.net/widget/atlas-targets#w.resource=8.8.8.8

You are here: Home > Data & Tools > RIPEstat > atlas-targets

RIPE Atlas Measurement Targets (8.8.8.8)

8.8.8.8

Show 10 targets/page Search:

Measurement ID	Stopped	Type	Target IP	Target Hostname
1040720	ongoing	ping	8.8.8.8	google-public-dns-a.google.com
1006491	ongoing	traceroute	8.8.8.8	not specified
1006192	ongoing	ping	8.8.8.8	not specified
1004827	ongoing	traceroute	8.8.8.8	not specified
1002630	ongoing	ping	8.8.8.8	not specified
1478085	2014-02-24 13:41 UTC	dns	8.8.8.5	not specified

Go to “RIPEstat >
“RIPE Atlas Activity”

Use Existing Measurements



- There are many measurements already running!
- Search for existing public measurements first...
- Only then schedule your own measurement if you don't find what you're looking for



Exercise G

Analyse Measurements Results

Refer to the exercise booklet



Creating a Measurement

Section 13

Logging In



- Create a RIPE NCC Access account
 - Same for LIR Portal, RIPE Atlas, RIPEstat, RIPE Labs...
- Advanced
- ‘LIR contact’: additional benefits!
 - Membership benefits for RIPE Atlas
 - Share probe management with LIR colleagues
 - Historical RIPE Database view in RIPEstat
- Add yourself as ‘contact’ in LIR Portal

Scheduling a Measurement



- Log into atlas.ripe.net
- “My Atlas” > “Measurements”
- “New Measurement” or “One-off”
 - Most are periodic and last a long time
 - Choose type, target, frequency, # of probes, region...
 - You will spend credits
- <https://atlas.ripe.net/doc/udm>
- Or use the API:

<https://atlas.ripe.net/docs/measurement-creation-api/>

Credit System



- Measurements cost credits
 - ping = 10 credits, traceroute = 20, etc.
- Why? Fairness and avoid overload
- Hosting a probe earns credits
- Earn extra credits by:
 - Being a member
 - Hosting an anchor
 - Sponsoring probes

<https://atlas.ripe.net/doc/credits>

Credits



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- LIR Benefits
 - Claim 1 Million Credits
 - IPv6 Connectivity Test
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Account Information

This is where you're able to view the history of your credit use. There are visualisations available, and you can also transfer credits to someone else.

35,107,046
1,760.00 credits / hour

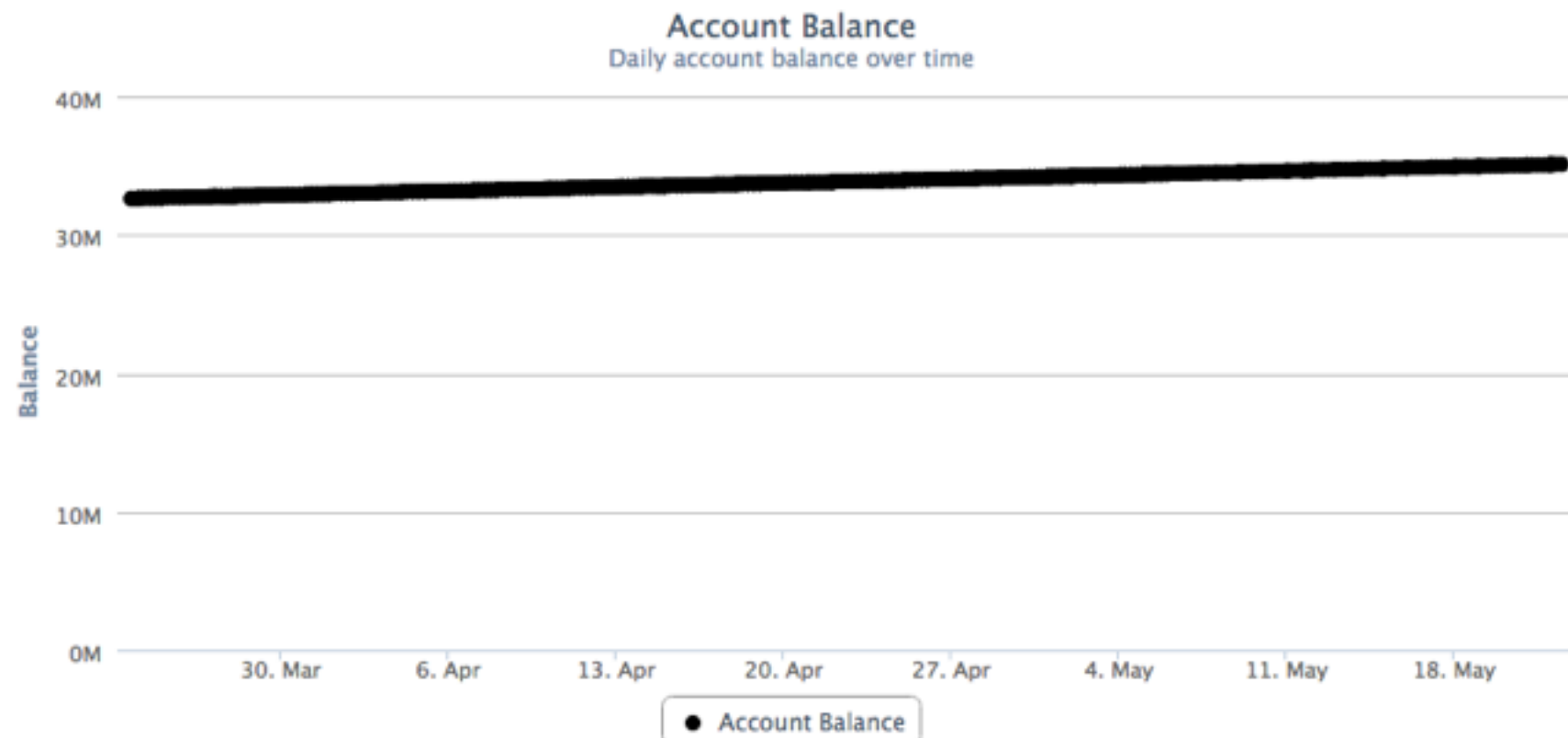
History

Charts & Archives

Transfer

Give credits
to someone

History





Exercise H

Create A Measurement

Refer to the exercise booklet



Network Monitoring

Section 13

Network Monitoring



- Network operators use tools to monitor network health
 - Nagios & Icinga
- Tools receive input from RIPE Atlas via the API
- Benefits:
 - Pings from 1000 out of thousands of probes around the world
 - See your network from the outside
 - Plug into your existing practices

Integration with Monitoring Systems



1. Create a RIPE Atlas ping measurement
2. Go to “Status Checks” URL
3. Add your alerts in Icinga or Nagios



Creating Status Checks



- Status Checks work via RIPE Atlas' RESTful API
 - https://atlas.ripe.net/api/v1/status-checks/MEASUREMENT_ID/
- You define the alert parameters, for example:
 - Threshold for the percentage of probes that successfully received a reply
 - How many most recent measurements to base it on
- What is the maximum packet loss acceptable
- Documentation:
 - <https://atlas.ripe.net/docs/status-checks/>

Icinga Examples



- Community of operators contributed configuration code!
 - Making use of the built-in “check_http” plugin
- GitHub repo examples:
 - https://github.com/RIPE-Atlas-Community/ripe-atlas-community-contrib/blob/master/scripts_for_nagios_icinga_alerts
- Post on Icinga blog:
 - <https://www.icinga.org/2014/03/05/monitoring-ripe-atlas-status-with-icinga-2/>



Exercise I

Setting Up Status Checks

Refer to the exercise booklet



More RIPE Atlas Features

Section 15

Latest Results API



- <https://atlas.ripe.net/docs/measurement-latest-api/>
 - Widget monitoring value in real time (100 probes pinging websites worldwide)
 - Alert based on average measurements per hour
 - Big network event, e.g. Internet outage in a region
 - DNS domain monitoring; configurable measurements using ten RIPE Atlas anchors
- https://labs.ripe.net/Members/suzanne_taylor_muzzin/ripe-atlas-latest-results-api-and-parsing-library

Secure Measurement creation and sharing



- Use API keys to:
 - Create measurements without logging in
 - Securely share your measurement data with others
- To create, manage and delete API keys:
 - <https://atlas.ripe.net/keys/>
 - <https://atlas.ripe.net/docs/keys2/>
- Examples:
 - <https://atlas.ripe.net/docs/rest/>

Security Aspects



- Probes:
 - Hardware trust material (regular server address, keys)
 - No open ports; initiate connection; NAT is okay
 - Don't listen to local traffic
 - No passive measurements
- Measurements triggered by “command servers”
 - Inverse ssh tunnels
- Source code published

Additional Membership Benefits



- RIPE Atlas:
 - Guaranteed approval to host a probe
 - Do NOT have to host a probe in order to perform customised measurements
 - 1,000,000 extra credits monthly via LIR Portal
 - “Quick Look” measurements via LIR Portal
 - IPv6 reachability testing (free - no credits needed)
 - Sharing probe management with LIR colleagues
- RIPEstat:
 - Historical view of RIPE Database objects



Take part in the RIPE Atlas community

Section 16

RIPE Atlas community (part 1)



- Individual volunteers host probes in homes or offices
- Organisations host RIPE Atlas anchors
- Sponsor organisations give financial support or host multiple probes in their own networks

RIPE Atlas community (part 2)



- Ambassadors help distribute probes at conferences, give presentations, etc.
- Developers contribute free and open software
- Network operators create measurements to monitor and troubleshoot
- Researchers and students write papers



Hosting a probe



- Create a RIPE NCC Access account
- Go to <https://atlas.ripe.net/apply>
- You will receive a probe by post
- Register your probe
- Plug in your probe
- If you receive a probe from an ambassador (trainer, sponsor, someone at a conference), just register it and plug it in!

More Hackathons!



- Join the hackathons in 2016
 - Before each RIPE Meeting - save the dates!
 - 21-22 May, Copenhagen
 - 22-23 October, Madrid





Questions



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@RIPE_Atlas

The End!

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