



**RIPE  
NCC**

## **RIPE NCC Technical Services**

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- RIPE Atlas
  - K-root expansion
  - DNS services
  - RIPEstat
  - Research
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- Mostly global services, accessible by everyone
    - In many cases, RIPE NCC members have an advantage



# RIPE Atlas

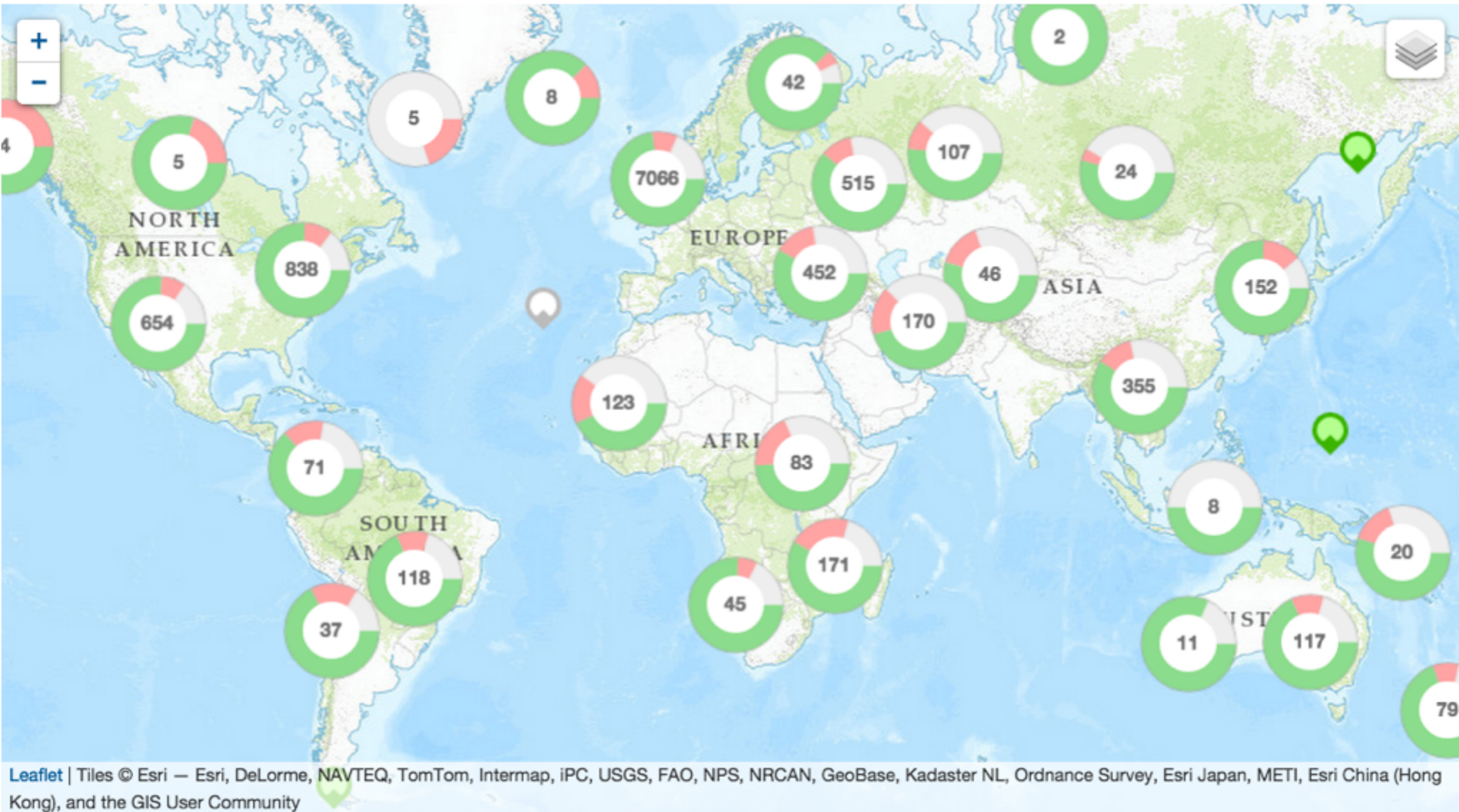
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- ~8,300 active probes at any given time
- 130 active RIPE Atlas anchors
- Millions of measurements everyday
- ~79 billion measurements last year
  - With the history preserved
- Current measurements: ping, traceroute, DNS, SSL
  - Working on HTTP(S) measurements
- Data streaming
- Open APIs, many useful tools built on top of RIPE Atlas

# Where we are



# Where we are



- We aim to reach 10,000 active probes this year
  - This should provide a statistically relevant sample of the Internet
- New generation of probes
  - With support for optional WiFi measurements
- 20% reduction in budget for 2015; will continue the trend in 2016 and 2017
- But the project is not downsizing
  - More operational efficiency
  - Assistance from interested parties



# K-root expansion

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- Five “core” (global) nodes: Miami, Amsterdam, Frankfurt, Tokyo and London
- 12 “hosted” (local) nodes around the globe
  - High maintenance, mostly caused by peering management resource requirements
- Adding new nodes involved a lot of arrangements, with high demand on hosting and connectivity requirements
- Current “local” nodes are being migrated to the new model



- Hosted nodes based on a single-box solution
- Easy to set up, with peering with one organisation
  - The host is free to decide on anycast announcing policies
- Full automation
  - Nodes will be taken out of the anycast network automatically if something is wrong, only three out of five core nodes are needed to handle peak K-root traffic
  - Almost all technical set-up and monitoring systems are automatically added on our side
- No expensive resource requirements for hosts
- A lot less resource intensive on our side



# DNS services

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- Authoritative DNS service for in-addr.arpa and ip6.arpa for resources in RIPE NCC service region
- Secondary services for 77 ccTLDs
  - Selection criteria is being discussed in the RIPE DNS Working Group
- One provisioning site
  - Second provisioning site to be active this year
- Three anycast locations
  - Working on ideas for extending service locations
- Three different name server set-ups



## **RIPEstat, diagnostics & research**

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- RIPEstat
  - Web-based presentation of Internet routing data
  - Visual aggregation of routing, registry, abuse, bandwidth, geolocation and RIPE Atlas data
  - Grouping based on prefixes, ASNs, countries, hostnames
    - Regions, operators and other groupings being discussed
  - Unique aggregation of information data with history
- Services based on RIPE Atlas
  - Global network monitoring and alerting
  - DNSMON as a widely used TLD monitoring system

## Country Routing Statistics (Russian Federation) BETA

multi-resource

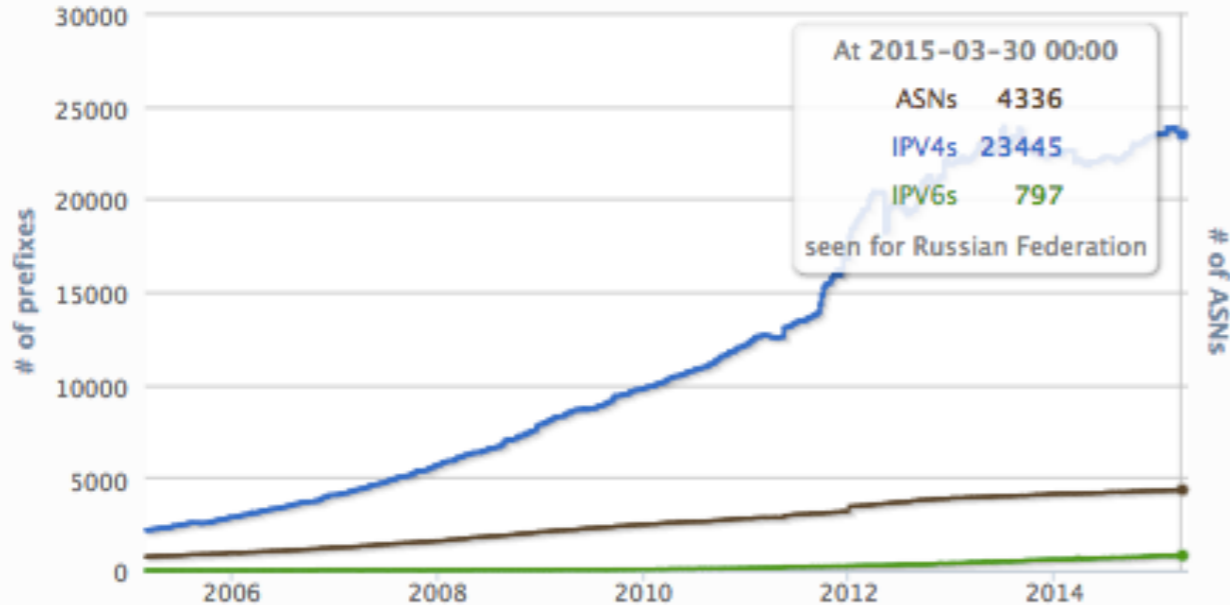
Current data point resolution in graph: per 1 week

monitor

zoom out

clear zoom

last 2 weeks



— ASN — IPv4 — IPv6  
(Click legend item to toggle visibility of a series)

## Country Resource List (ru)

Date: 2015-06-08

ASN IPv4 IPv6

Show 10 entries

Search:

109.105.128.0/19

109.105.160.0/19

109.105.64.0/19

109.106.128.0/19

109.106.192.0/19

109.107.160.0/19

109.108.32.0/19

109.109.208.0/20

109.110.32.0/19

109.111.0.0/19

Showing 1 to 10 of 7,148 entries

Showing results as of 2015-06-08 00:00:00 UTC

source data

embed code permalink info



- Looking into interesting **events** and how they effect Internet
  - BGP leaks
  - Effects of IPv4 runout and related policies
  - Internet traffic and connectivity during major events like massive power cuts, earthquakes or World Cup
- Looking into interesting **trends** and how they effect Internet
  - IPv6 and DNSSEC uptake
  - Aggregation in routing table
- Working closely with researchers around the globe

