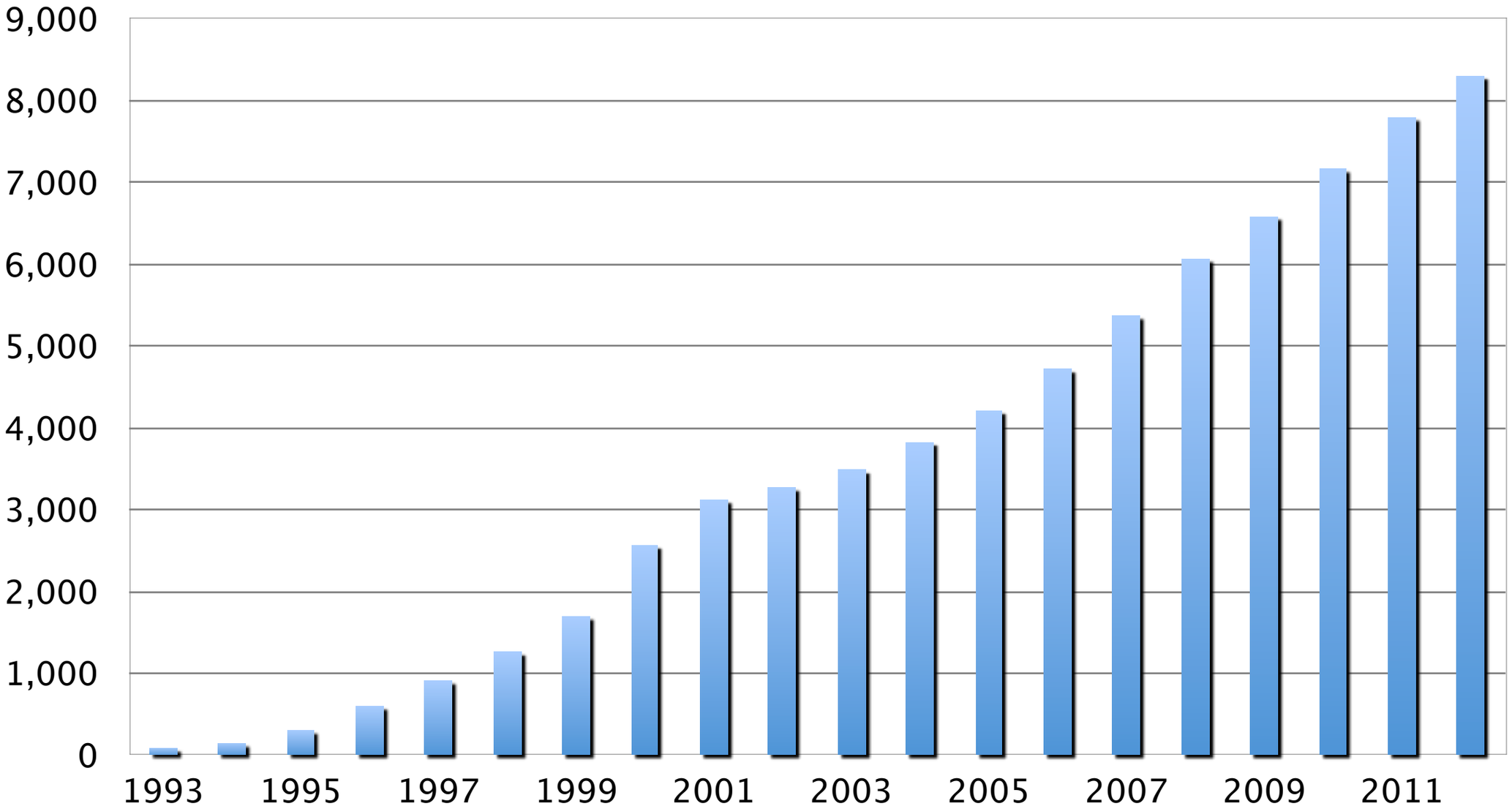
RIPE NCC Update

RIPE NCC Services Working Group
Axel Pawlik
Managing Director

Membership Growth

- As of 31 August 2012 - 8,279 LIRs



Too Much Information...

- Legal and Corporate Governance
- Talk to us...
- Serving our Members
- Development Work
- Measurements and Remote Infrastructure
- Cooperation & Outreach
- ...

Legal and Corporate Governance

RIPE NCC Members With Multiple LIRs

- After carrying out regular due diligence audit, we found that some legal entities are responsible for multiple LIRs
- This means these entities have multiple memberships and thus multiple voting rights
- Under Dutch Civil Law a legal entity can only have *one voting right* in an association
- Affected members have been contacted

Policy Impact?

- Last /8 and members with multiple LIRs
- Seeking clarity on how we should interpret section 5.6 of “IPv4 Address Allocation and Assignment Policies for the RIPE NCC Service Region” (discussion in Address Policy WG)
- Potential implications of 2012-04 “PI Assignments from the last /8”

Dutch Police Order Update

- On 8 November 2011, Dutch police presented an order to "lock" registrations in the RIPE DB
- RIPE NCC is seeking clarification on the legal basis of the order
- Two affected blocks of IPv4 address space were de-registered after non-payment of membership fees
- These blocks were then re-allocated in August, according to procedures

Dutch Police Order (2) - Court case timeline

19 June	State submitted a statement of defense
6 July	Court ordered a hearing
Today	
29 Nov	Hearing
Somewhere in 2013	Court decision

Regular Requests for Information

- Typically from LEAs
- Usually referred to public information
  - with a bit of education / background
- Recent “training workshop” with SOCA
  - excellent feedback
  - possibly evolving into half-day training

New Quality of Request

- Fax to Chairman, cc to Barack Obama et al
- From Group called "*United Against Nuclear Iran*"
- Has been answered by acknowledging receipt

17 Sep 2012

On 7 September 2012, the RIPE NCC received a fax from United Against Nuclear Iran (UANI) questioning whether our relationships with Iranian RIPE NCC members are in violation of United Nations (UN) or European Union (EU) sanctions against Iran.

The RIPE NCC is in contact with the Dutch Ministry of Foreign Affairs to ensure that we operate in accordance with Dutch law and all applicable international sanctions. Our advice from the Ministry has been that the RIPE NCC is not in violation of these sanctions. However, we will investigate in cases where new information is provided to us and we will ensure that changing circumstances do not place the RIPE NCC in violation of sanctions.

- Reviewing due diligence procedures
- Contacting authorities for "exemption", "license"

Fortifying Legal Framework

- Drafting Terms and Conditions for new services
  - Proxy, NRTM, Atlas Anchor
- Compliance of internal procedures with law
- Legal Impact analysis for policy proposals
- Support for RIPE NCC Arbitration procedure

Corporate Governance Documents

- Published
  - Due diligence document
  - Contractual relationship changes between sponsoring LIRs and End Users
  - Draft transfers and name change procedure
- Ongoing
  - Data protection report
  - Handling of orders procedure

Talk to us...

Feedback Mechanisms

- Multiple feedback mechanisms include:

RIPE Working Group sessions

Customer services/ online chat

RIPE Labs

General Meetings

Task Forces

Social media

Mailing lists

BOFs

RIPE Meetings

Executive Board

Online chat

Contact forms

Surveys

- Tailored for different sectors of the community...

Membership and Stakeholder Survey (1)

- Membership and Stakeholder Surveys give **valuable** feedback: 825 respondents in 2011
- Enables us to gauge membership and key stakeholders' opinions to help formulate long-term organisation strategy
- 2011 survey identified more than 50 key areas that we could improve on
- Over the last 12 months we have been actively working to improve these key areas and will publicly document these developments shortly

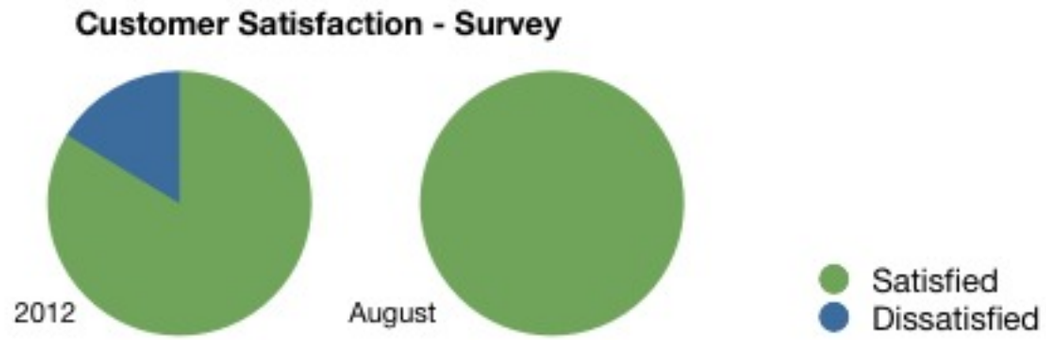
Membership and Stakeholder Survey (2)

- Now planning to conduct surveys approximately every two years
  - In loose coordination with APNIC
- Dynamic nature of the industry and speed of developments
  - Membership community and other stakeholder groups change regularly
- Preparing for our next survey
  - to be launched at the RIPE 66 Meeting, Dublin, May

Serving our Members

Customer Satisfaction Measurement

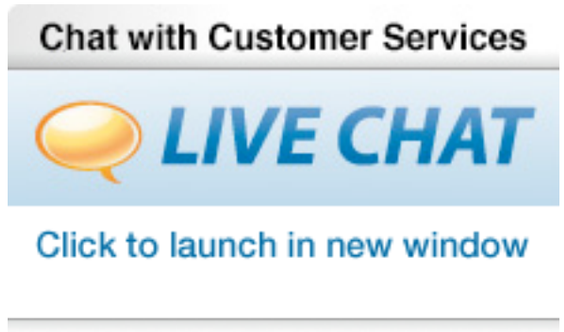
- Customer Services tickets
  - 3-question survey launched in January 2012
  - potential roll out across all customer-facing departments



- 2012 achievements
  - 93 responses submitted
  - average of 83% of customers satisfied

Live Chat Service

- Customer Services via Live Chat
  - you can reach us from 13:00 to 17:00 (CET) Mon-Fri
  - we open tickets when more specialised or confidential assistance is required

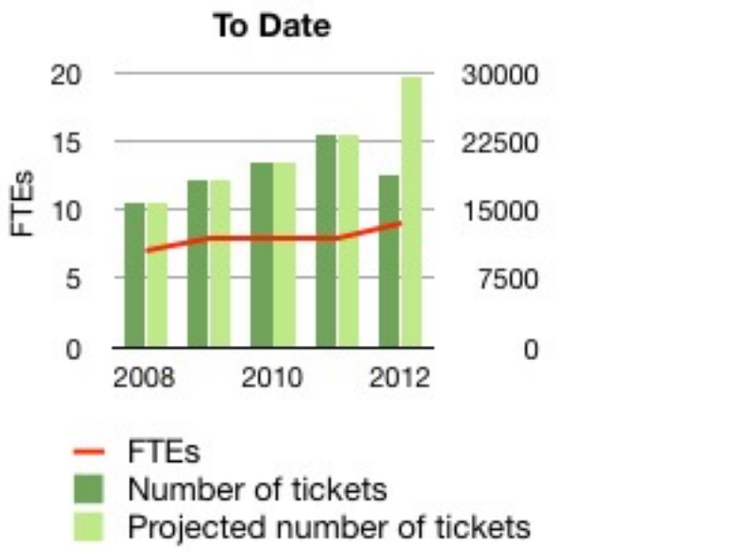


- Year 1 achievements
  - wider range of areas covered
  - increased availability (from 2 to 4 hours per day)
  - average of 5 out of 5 stars awarded (satisfaction rating)
  - 314 sessions (measured from August 2011)

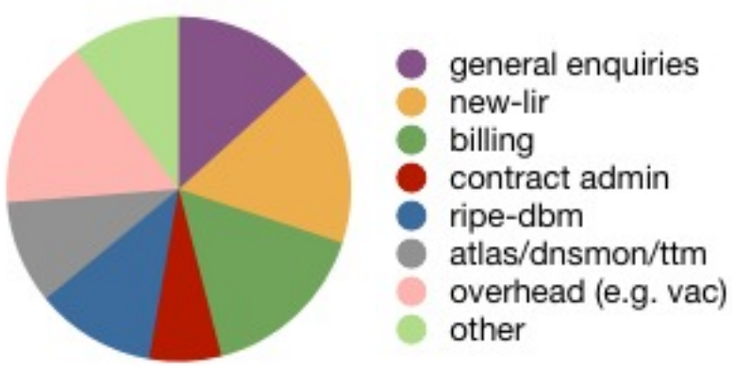
Operational Statistics

- Increasing ticket-load Customer Services and Registration Services

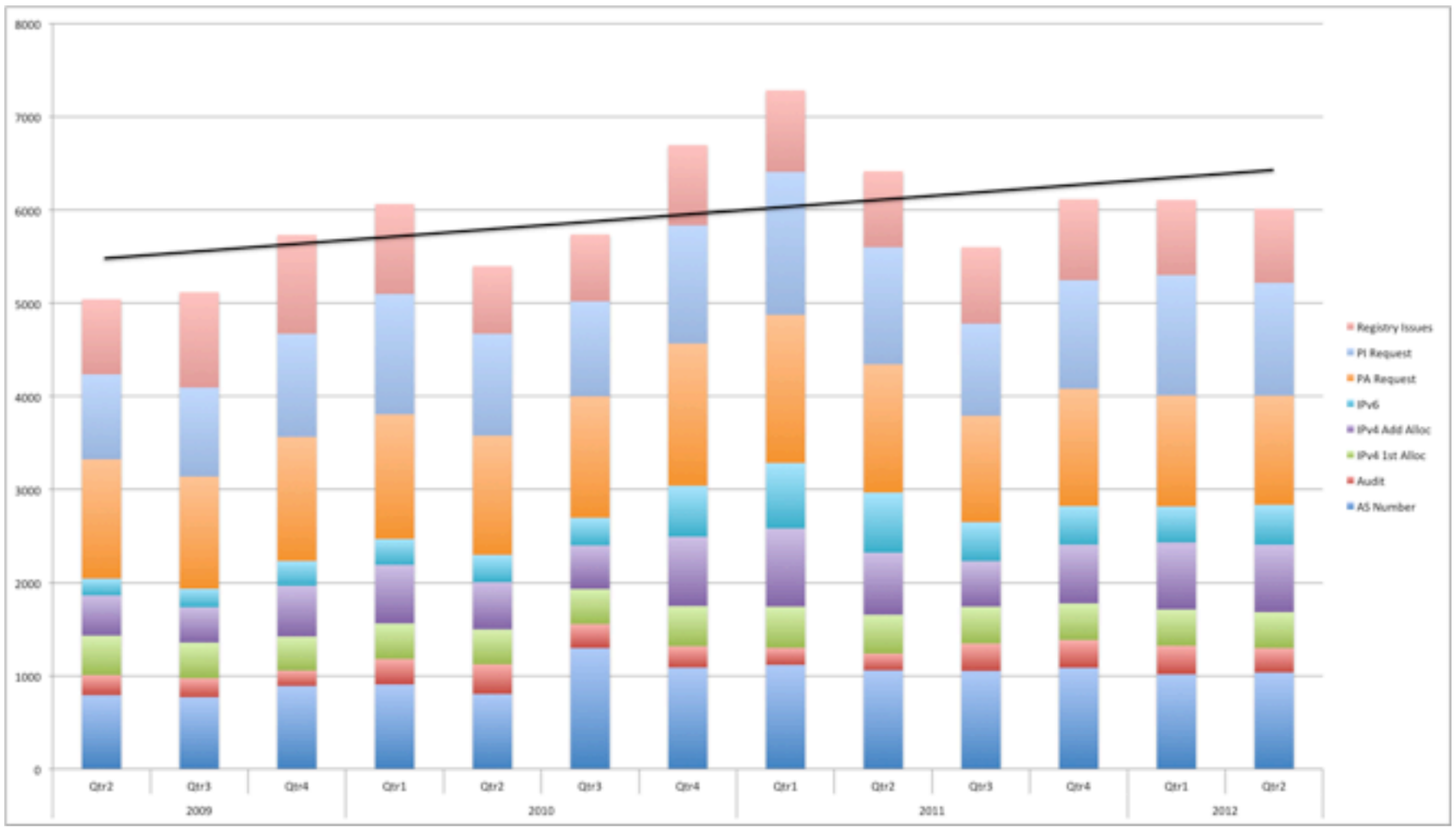
CS tickets



Division of time in 2012



RS tickets



Registration Services Developments

- 2012 main focus - stable approach to last /8
- Improved communication
  - Proactive phone calls
    - When requesting a first allocation
    - After our third email
- Coordination support
  - Helping members solve problems by locating contacts
  - 128.0.0.0/16 was listed as martian
    - Successfully contacted operators asking to update filters

Registration Services Developments

- Further improve IPv6 support to LIRs
  - Strong increase in IPv6 address management questions by membership
  - Further enhance IPv6 expertise in RS
  - Deliver tools for data processing and workflows (e.g. IP Analyser)
- Introduce Live Chat for RS (Q1 2013)

Audit Activity Development

- Drivers
  - Accurate, complete and current RIPE Registry
  - Increase reliability perception of RIPE DB
  - Measurable reliability of organisation data
  - Publicise reliability of organisation data
  - Regular contact with RIPE NCC members after reaching last /8
  - Ease maintenance of RIPE Registry data by members

Audit Activity Development (2)

- Activities
  - Selected and reported audits
    - Policy violations
  - Quality audit
    - Every three years by RIPE NCC
    - Audit result visible in RIPE DB objects
    - LIR support with Reverse DNS delegation checking; BGP visibility; RPKI status; Routing Registry
    - Facilitate LIR self-auditing (next phase)

Training Services Department

- IPv6, LIR and RR Training courses
  - More technical and more hands-on
- IPv6 Roadshow
- Presentations at conferences
- Get Comfy: learn online!
  - Webinars
  - Instructional movies
  - New Database videos, explained by Debbie
  - IPv6 videos, transitioning techniques (Q4)

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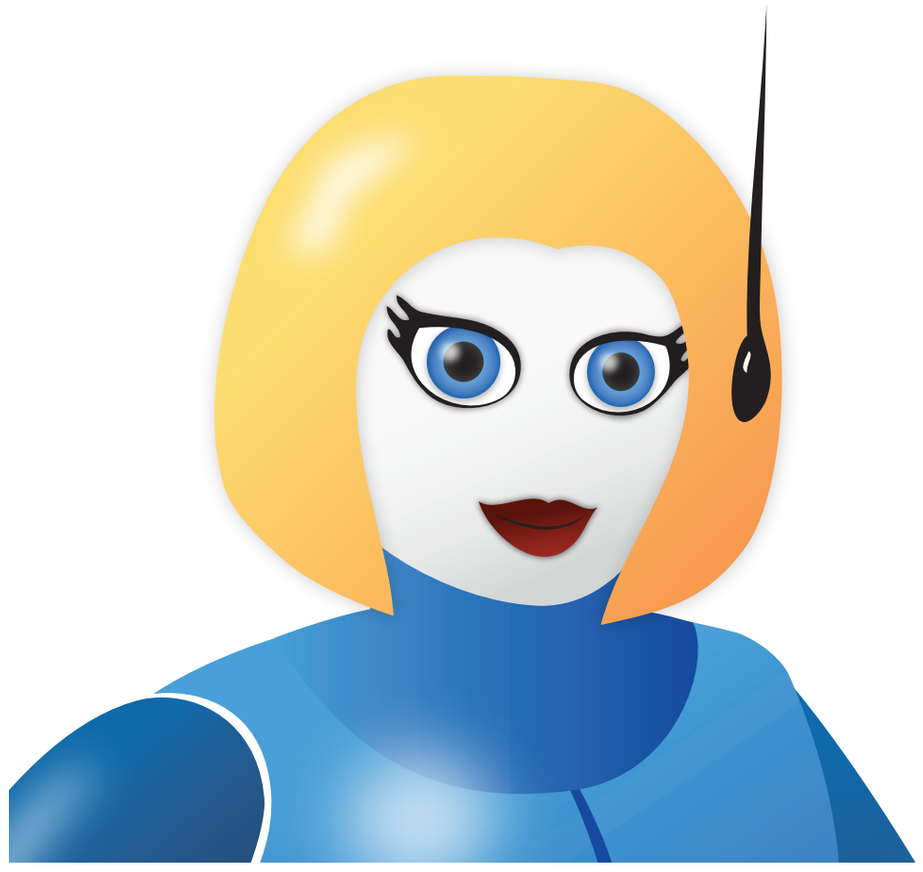


RIPE NCC TS IPv6 Hands-on Labs

- Goals:
  - simple and fun - first IPv6 experience
  - should work in any browser
  - scalable (any number of environments and scenarios)

- Using well-known technologies:
  - Python / Flask / Twitter Bootstrap
  - Cloud backend
  - Vyatta router software

IPv6 CPE Survey 2012

- Enquiries about IPv6-ready CPE is a very common request we get
- Things are improving in terms of availability
  - A lot of new CPE support IPv6

- One place to find an overview of which models are available in your region

IPv6 CPE Survey 2012

- Now part of the IPv6 Act Now platform
- Interactive interface:
  - Filter for regional availability
  - Filter on features
  - Compare different models
- More data will be added

http://www.ipv6actnow.org/cpe-survey-matrix/

IPv6 CPE Survey 2012

IPv6 ACT NOW

Search

Stay updated on our news

Home | News | Info | Community | Links | FAQ | Contact

How to Act Now | World IPv6 Launch | Transition | Get IPv6 | IPv6 Events | Training | Interviews | Statistics | IPv4 Exhaustion

CPE Survey Matrix

Hide Matrix Filter Options | Uncheck all row filters | View Entire Matrix | Reset Matrix

D-Link | Technicolor | Cisco | DrayTek

Filter/Compare

Manufacturer:	D-Link	D-Link	D-Link	D-Link	D-Link	D-Link	D-Link	D-Link
Model number:	DIR-865L A1	DIR-835 A1	DIR-825 C1	DIR-655 B1	DIR-653 A1	DIR-652 B1	DIR-645 A1	DIR-636L A1
Minimum Software version:	V1.00	v1.02	v3.00	v2.07	v1.00	v2.00	v1.03	v1.01
Availability per region **Filter by Country:** Europe Africa North America South America Middle East Russia and CIS Asia	Europe North America South America Middle East Asia	North America Middle East Russia and CIS Asia	Europe North America Asia	Europe South America Middle East Russia and CIS Asia	North America	Europe	Europe North America South America Middle East Russia and CIS Asia	Europe North America South America Middle East Russia and CIS Asia
Network Support WAN: ADSL	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available
Network Support WAN: VDSL	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available	Not Available
Network Support WAN: Ethernet	Available	Available	Available	Available	Available	Available	Available	Available
Network Support WAN: Gigabit ethernet	Available	Available	Available	Available	Available	Available	Available	Available

Development Work

Creating Value For Members

- Our mission:

  Making life of our members easier with tools and services

- Examples:
  - IP address management
  - Tools for data processing and workflows
  - Tools for data analysis
  - Increase in knowledge level
  - Training and education

Creating Value For Members

- RESTful API for RIPE Database
  - Very popular: >500,000 queries per day
- IP Analyser - API for private member data about resources
  - *hold on for Alex' presentation...*
- RIPE NCC RPKI Service and Validation Toolset
  - Make more informed BGP routing decisions
  - 1,105 members certified their resources, 840 ROAs

Resource Certification (RPKI) Developments

- As presented at RIPE 64, focus on four areas:
  - Security, Resilience, Operator Autonomy, Service Expansion
- Most work has gone into the back-end system
- Only visible change is a new user interface in the LIR Portal to manage ROAs
- Participation in IETF (sidr) ongoing

Resource Certification (RPKI) Developments

- Most frequently heard feature request:
  - Allow PI End Users to get a certificate and create ROAs
- The RIPE NCC position:
  - Resource Certification is a *member* service
  - We need to have a *direct* relationship to make an authoritative statement about holdership

PI End Users and Legacy holders should become members to use the Resource Certification (RPKI) Service

RIPE Database Redevelopment

- We are redeveloping the 12-year-old C and Perl combination of code for the RIPE Database
- New code is OS independent, well-documented and easy to maintain
- We can easily add functions per community requests
- Drop-in replacement for existing RIPE Database server software users

Comparison of Legacy and New Queries

	Legacy	New code	Change
Adding a new server to cluster	~2 Engineer Days	~ 3 Engineer Hours	450%
Adding new feature	~1 Engineer Week	~2 Engineer Hours	1800%
Down time for putting new version	Most of the times up to 10 minutes	No downtime required	
Memory usage for current RIPE DB	More than 8 Gb	about 4 Gb	200%
Number of required files on disk	40 files and 25 libraries	3 files, only requires Java	
Number of supported connections per address	3	Unlimited (set to 3 based on AUP)	
Time for new engineer to start on code	In order of weeks	One or two days	

RIPE Database Redevelopment, Future

- Finishing the update code and then providing the code to the community
- Working on fresh client side tools (Route filter generator, whois client) based on RIPE Database API
- Rethinking DB organisation to facilitate the “Strong Registry” concept

Membership Services

- To clean up RIPE NCC's Database Service Portfolio, we have proposed to break down our services to three simple categories, Public, Membership and Internal services
- The only services that do not match the new portfolio are NTRM and Proxy Services which have their own contract
- Maintaining the contracts involves a lot of administrative tasks, mainly for CS and Finance

Near Real Time Mirroring (NRTM)

- NRTM Let's users keep a local copy of an anonymised mirror of RIPE Database in real time sync.
- At the moment we have 22 users who pay 250 euro annually to get access to the NRTM Feed.
- 14 of them are already RIPE NCC Members and 8 of them are not currently members.

RIPE Database Proxy

- Proxy let's users redirect queries to us on behalf of their customers, so all the per IP address limits are applied to their end users instead of their own server
- 20 contracts but looking at Aug. 1st to Aug. 10th 2012 stats, only 3 users have actively used the service.

Measurements and Remote Infrastructure

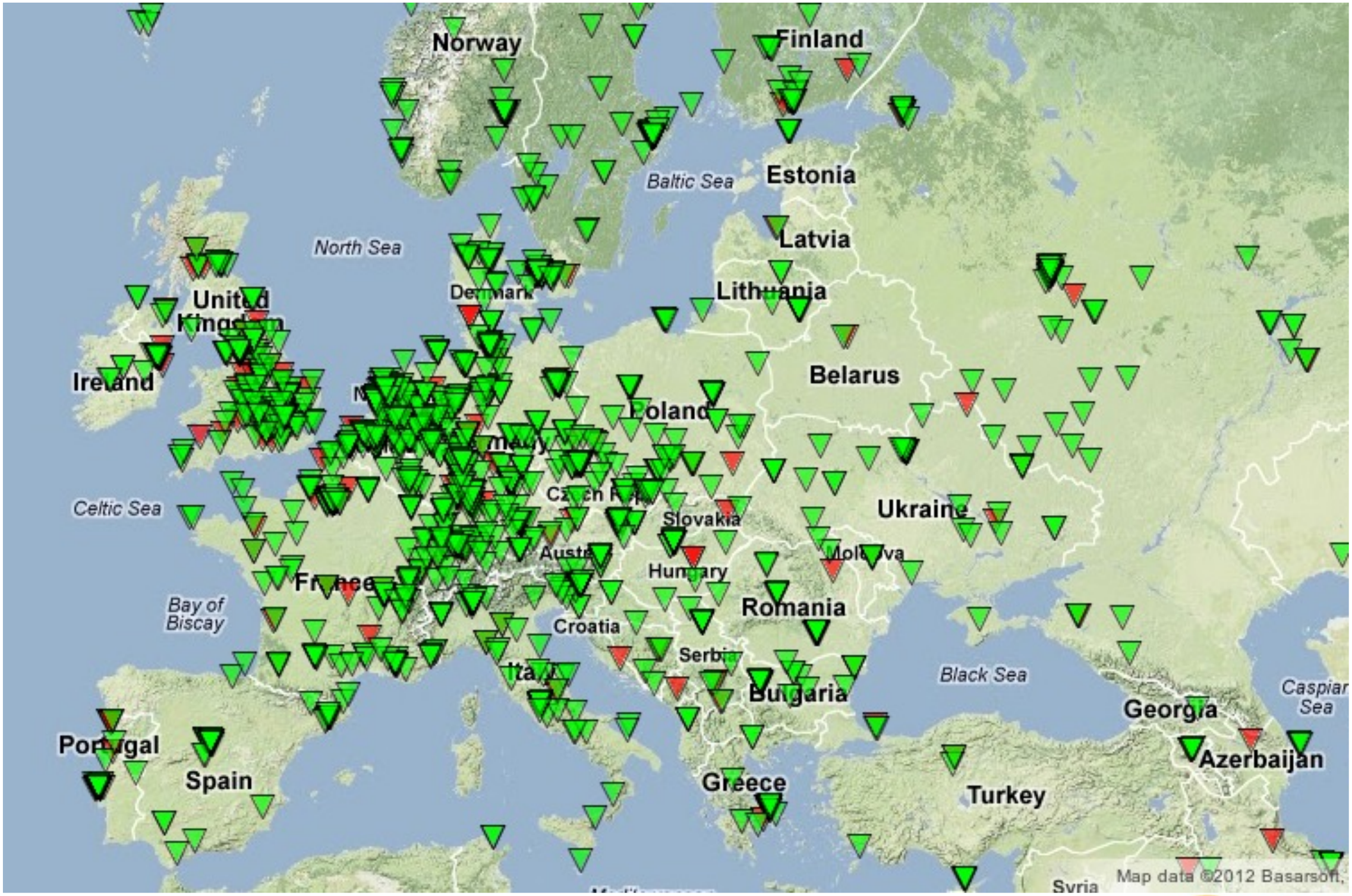
Measurement Services Strategy

- Consolidate Measurements into
  - RIPE Atlas for active measurements
  - RIPE RIS for BGP measurements

- Consolidate presentation into RIPEstat

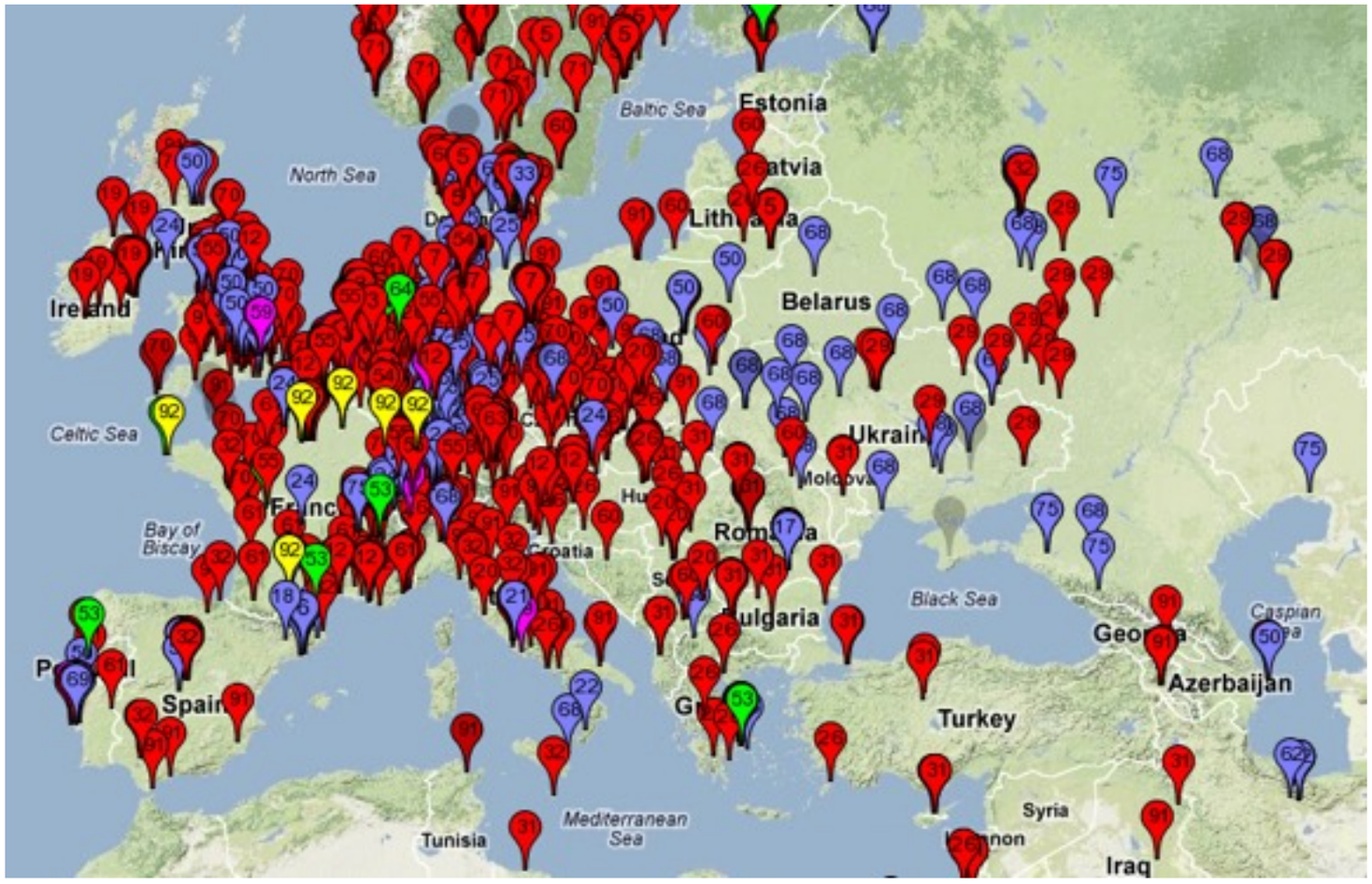
- Add value for both community and membership

RIPE Atlas


Norway
Finland
Baltic Sea
Estonia
North Sea
Latvia
Lithuania
Belarus
Ireland
Poland
Celtic Sea
Ukraine
Slovakia
Hungary
Romania
Bay of Biscay
Croatia
Black Sea
Bulgaria
Georgia
Caspian Sea
Azerbaijan
Portugal
Spain
Greece
Turkey
Syria
Map data ©2012 Basarsoft

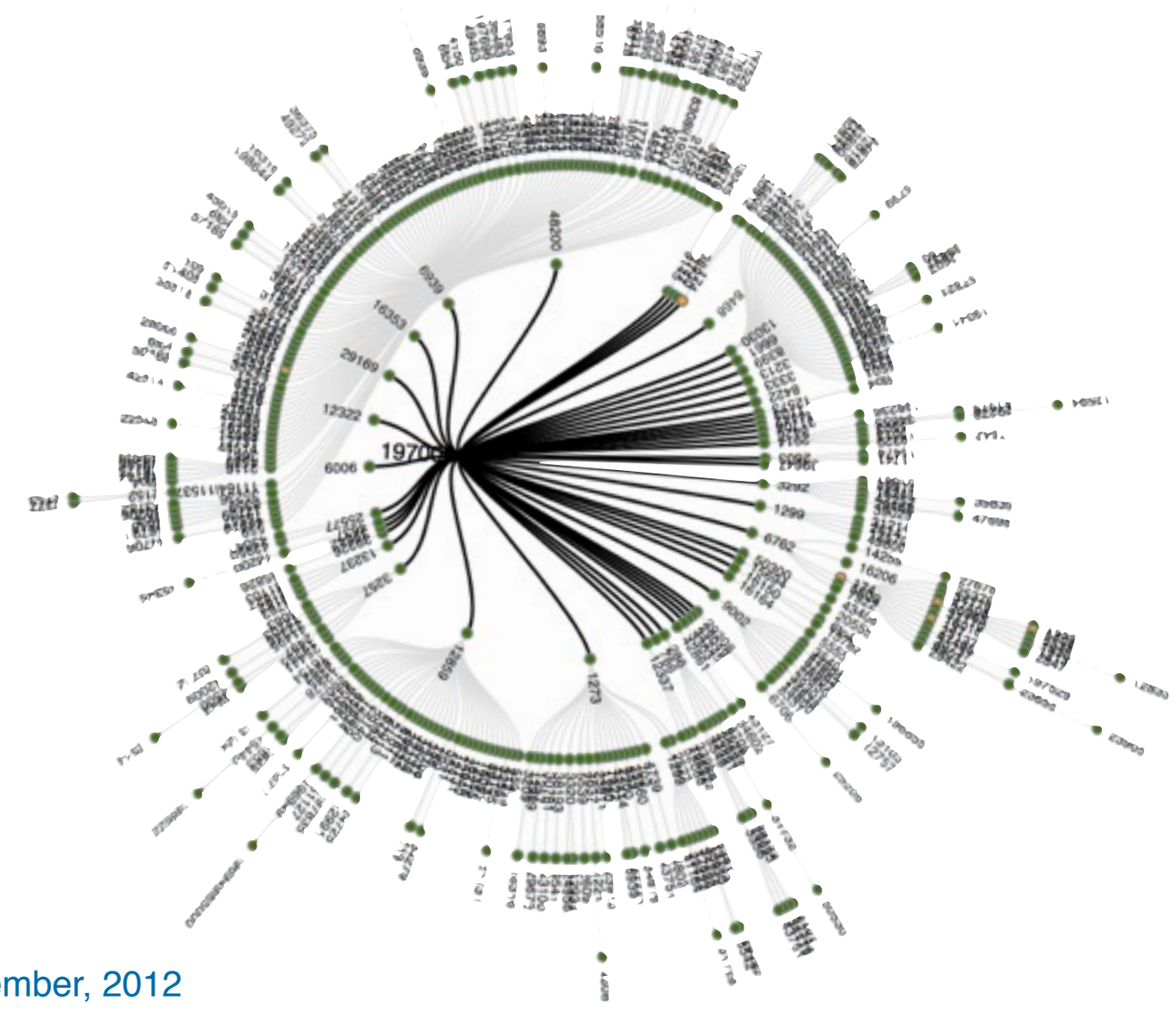
RIPE Atlas

- More value for the Community:
  - DNS, SSL-Cert measurements
  - More powerful user-defined measurements possible



RIPE Atlas

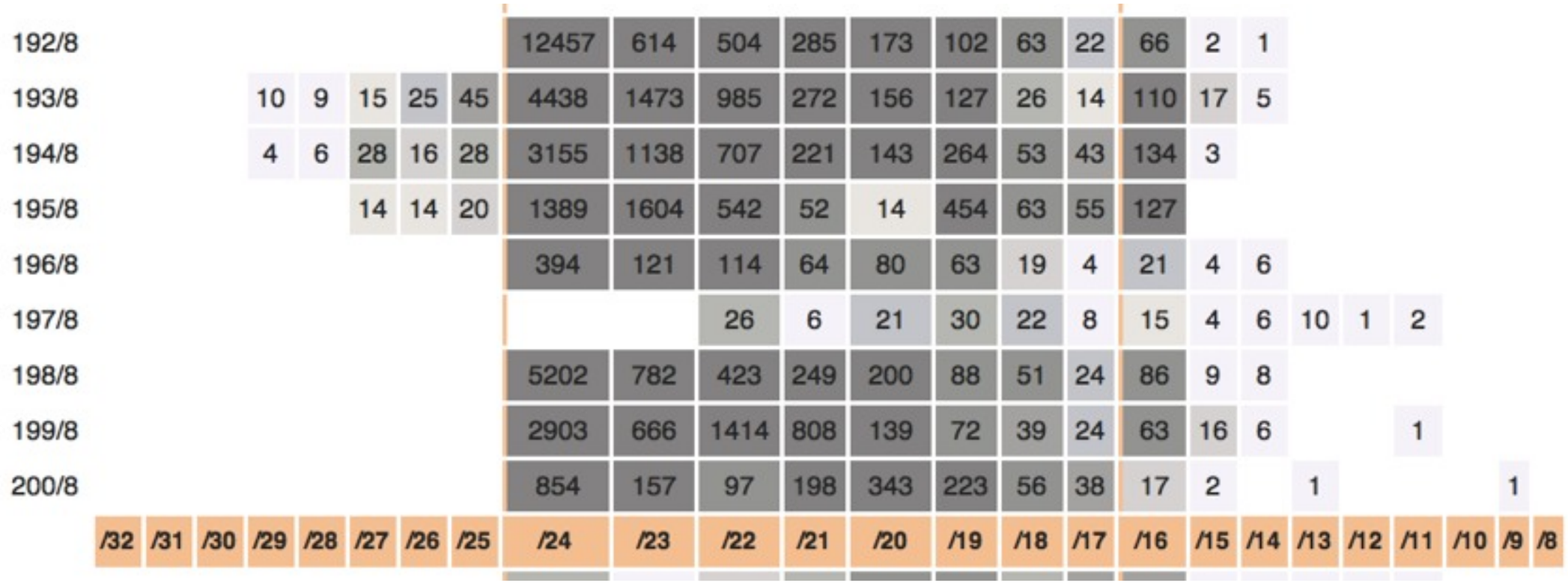
- More value for RIPE NCC members:
  - User-defined measurements available to **all** members
  - IPv6 Traceroute Measurements from 100s of probes



RIPE Atlas

- Plans:
  - Even more powerful user-defined measurements
  - RIPE Atlas Anchors
    - pilot starting now
    - goal: ~50 deployed in 2013

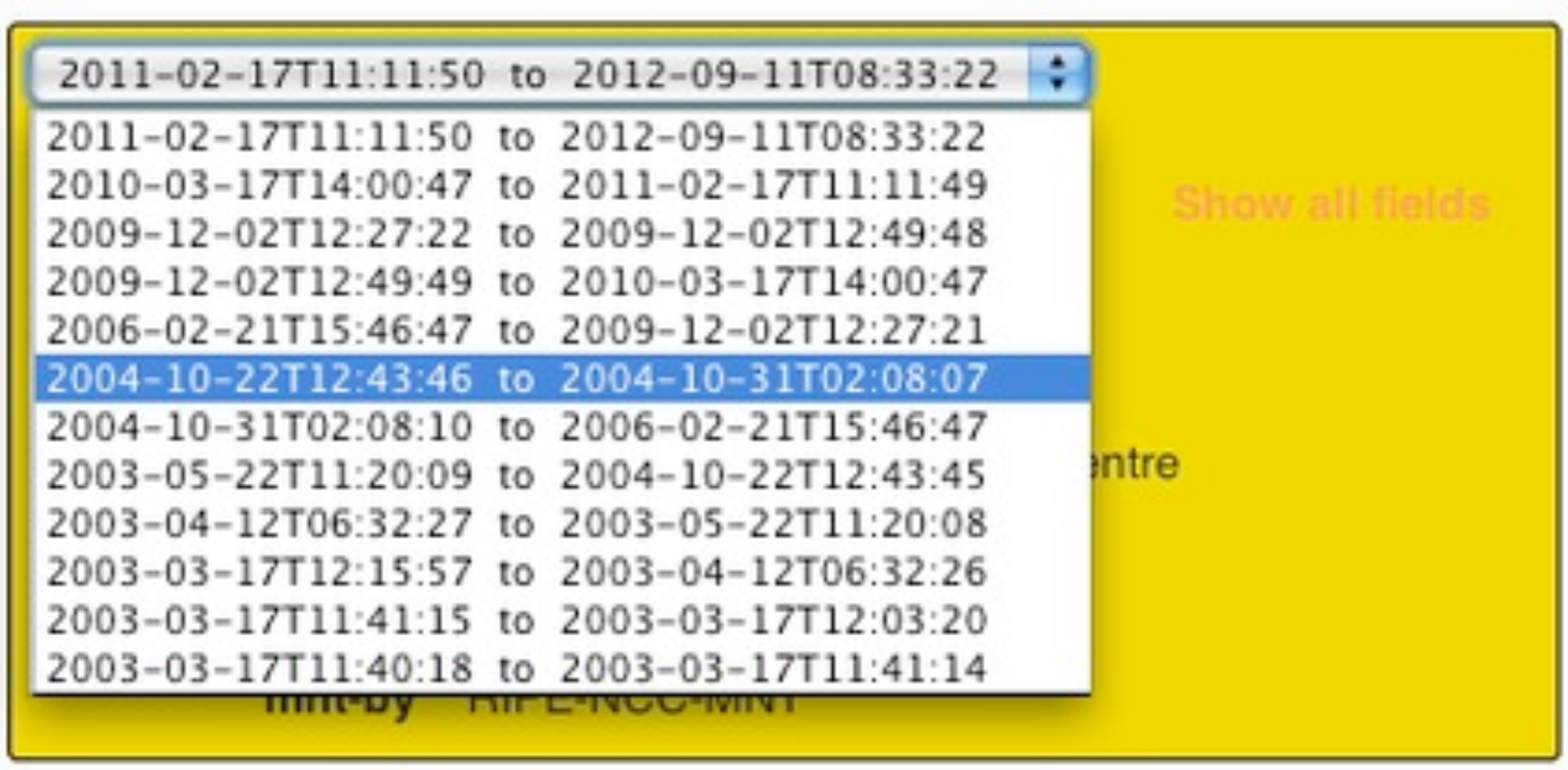
RIPEstat



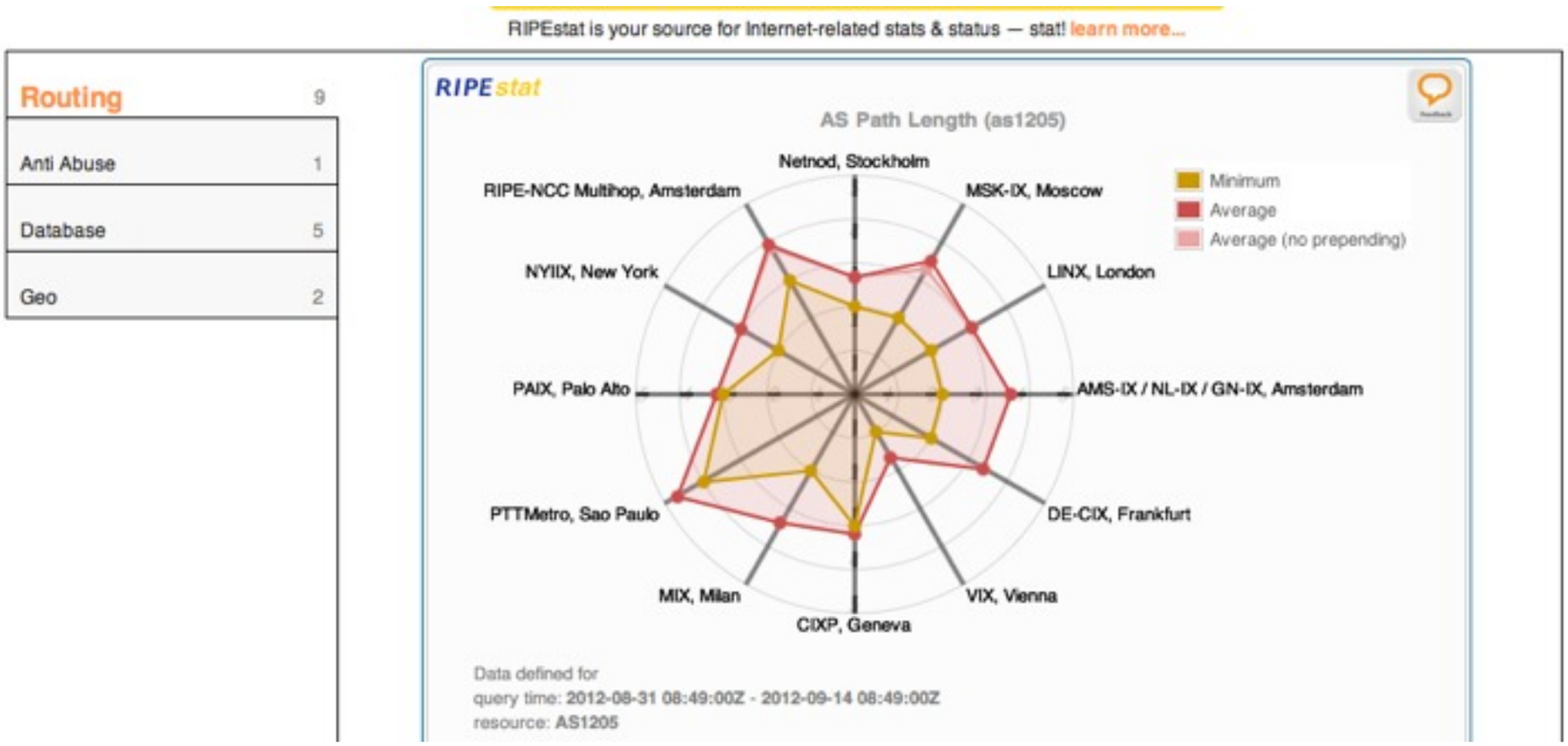
- More Value for the community:
  - Consolidation: embeddable, data calls, performance
  - Prefix size distribution

RIPEstat

- More Value for RIPE NCC members:
  - Better linked from LIR Portal
  - History demo in database object browser



RIPEstat



- Plans:
  - Results easier to share
  - New tabbed layout

Making Sense of It All

1 comment

IPv4: Business As Usual

Daniel Karrenberg — May 29, 2012 05:00 PM

In anticipation of reaching the last /8 of IPv4 addresses in the RIPE NCC service region, we have been looking at the number of IPv4 addresses the RIPE NCC handed out over the last four years. The curves look surprisingly uniform.

0 comments

World IPv6 Launch - Lasting Effect on Content

Emile Aben — Jul 23, 2012 03:30 PM

Now that World IPv6 Launch is weeks behind us it's interesting to look at what long-lasting effects it had.

Tags: statistics, measurements, ipv6launch

» Read more

0 comments

Internet Traffic After First Round of Euro 2012 Matches

Fergal Cunningham — Jun 15, 2012 03:10 PM

In this article we show some interesting traffic graphs seen at IXPs during the first round of matches.

Tags: World IPv6 Launch - Results from HTTP Measurements

Rene Wilhelm — Aug 23, 2012 09:55 AM

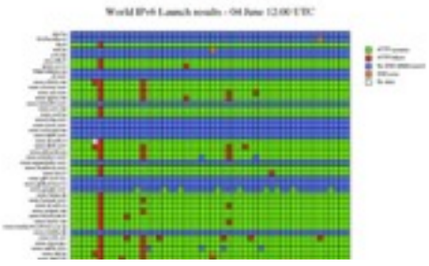
Filed under: measurements, ipv6launch, ipv6

3 tweets retweet

For World IPv6 Launch the RIPE NCC measured 60 selected participants from over 50 vantage points all over the world. In this article we present the DNS and HTTP measurement results from a 4-day period as a 3 minute movie. We will discuss general observations and look at some specific events.

Introduction

In a previous article we described the measurements the RIPE NCC performed for World IPv6 Launch. With ping and traceroute we measured performance and reachability on the network layer. On the application layer we measured availability of HTTP service, over both IPv4 and IPv6. These results are visualised in dashboards, for each IP version a matrix which shows the outcome of the latest HTTP measurements from each vantage point to each measured participant (you can click on the images to get a bigger version).



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First Measurement Resu Launch

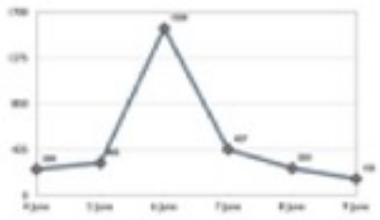
Mirjam Küh

Tags: ipv6launch, ipv6

0 comments

World I Studies

Ann Barcomb



Tags: routir

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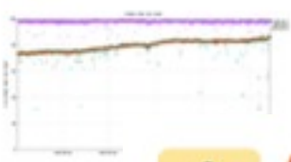
De-bogonising 128.0.0.0/16

Kjell Leknes — Jun 15, 2012 10:06 AM

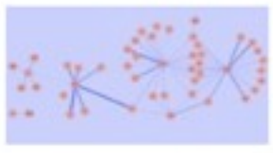


Please find below an update of our effort to help network operators clean-up redundant settings with respect to 128.0.0.0/16

0 comments

A Use Case for IPv6 Reachability Testing with RIPE Atlas

Vesna Manojlovic — Jul 03, 2012 12:55 PM



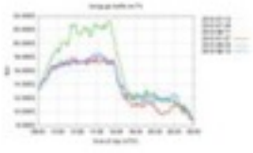
RIPE Atlas was used to perform IPv6 reachability test IPv6 Launch. O usage statistics that this feature even after the "launch" is over.

Tags: atlas

3 comments

Internet Traffic During the 2012 Olympics

Fergal Cunningham — Sep 04, 2012 11:45 AM



Following on from the European Championship earlier this year, we looked at changes in Internet traffic volume at In O IX

5 comments

Internet Traffic During the European Championship 2012

Fergal Cunningham — Jun 08, 2012 04:05 PM

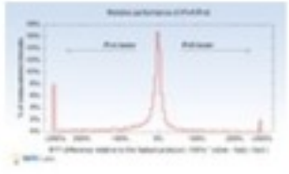
The European Football the third most watched the world (after the Wo Olympics). Euro 2012 Poland and Ukraine fro teaming up with Euro-I Internet Exchange Poi look at Internet Exchar during the tournament.

Tags: ixp, statistics

0 comments

Measuring World IPv6 Launch - Comparing IPv4 and IPv6 Perfor

Emile Aben — Jun 21, 2012 04:50 PM



Following on from last year's duri IPv6 Day, we again looked at rela performance of IPv4 and IPv6 from the measurements we conducted. In this article we describe the methodology and the show the results of these measurements.

Tags: ixp, statistics

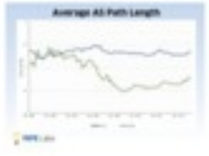
Tags: measurements, ipv6launch, ipv6

» Read more

0 comments

Update on AS Path Lengths Over Time

Mirjam Kühne — Sep 10, 2012 09:05 AM



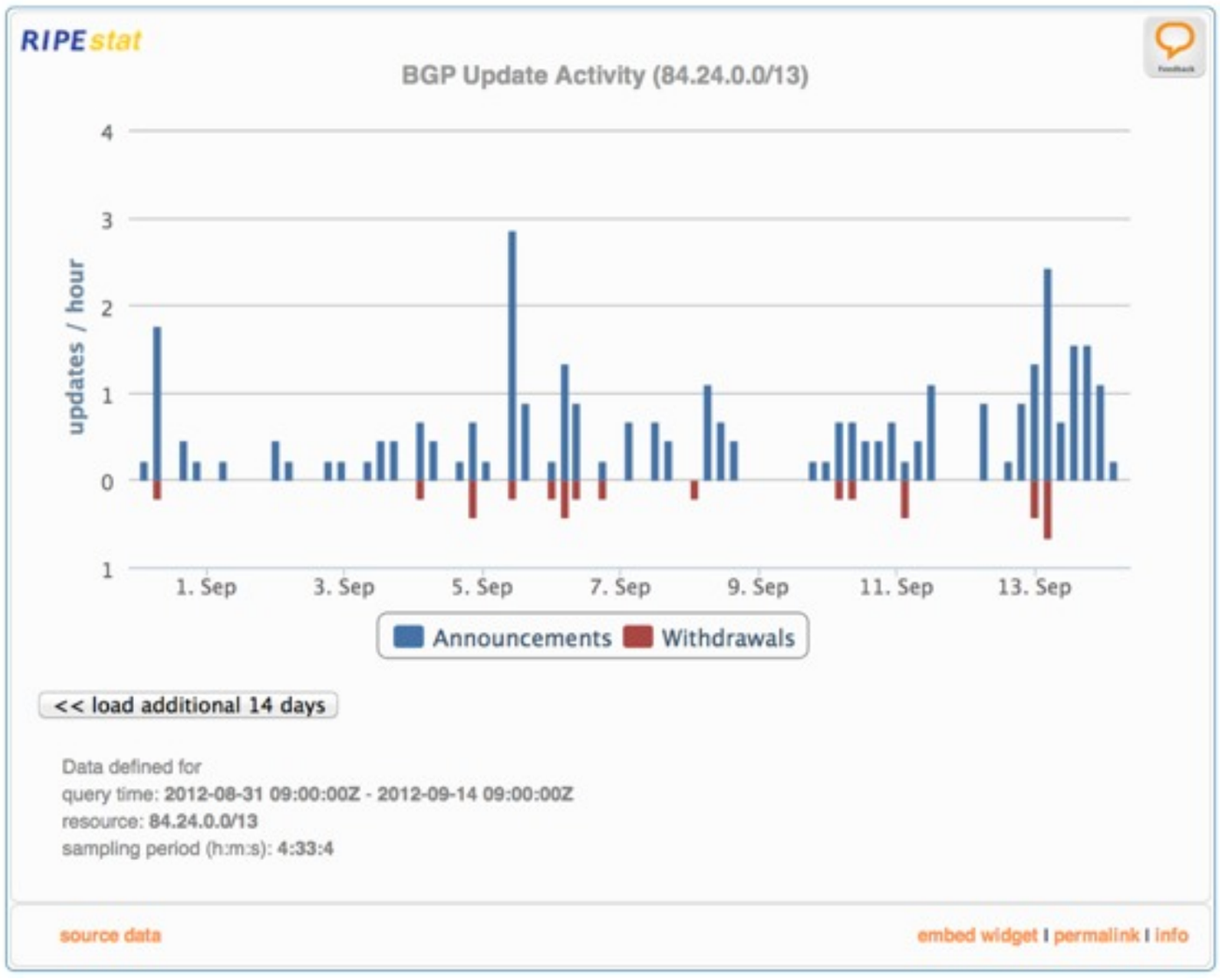
One way to determine the denseness of the Internet, or its "interconnectedness", is to look at the path length between Autonomous Systems (ASes). A while ago we looked at that and also at differences between IPv4 and IPv6 networks. Has this changed in the meantime? See our findings below.

Tags: routing

» Read more

RIS: Routing Information Service

- Business as usual
- User interface elements moving to RIPEstat!



TTM

- Continuing operation on user request
  - Many test boxes no longer maintainable
  - Back-end struggling hard
  - A drain of resources to keep running
  - Users not charged for 2012

- Most functionality will be in Atlas Anchors
- Proposal:
  - continue to operate with ‘best effort’ service level
  - terminate Q2/2013

DNSMON

- Business as usual
  - small outages caused by aging TTM back-end
- Will be moved to membership service in 2013
  - current users will have to become members
  - opening to all members in second half 2013
  - focus on TLDs and similar
- Plans:
  - Integration with RIPE Atlas
  - Presentation in RIPEstat

DNS

- ~~Business as usual~~ : rDNS Outage
  - actions taken:
    - provide 24/7 contact coverage
    - several procedural improvements
    - re-implementation of provisioning system
    - full report with interesting lessons being prepared

- Pilot for K-root member instances
  - local root name service in member network
  - resilience against reflection attack
  - membership value

Cooperation & Outreach

RIR Cooperation

- Longstanding friendly cooperation and help
  - Software development, staff exchange, ...
- NRO as vehicle for joint activities of all RIRs
- New: MoU with APNIC on “Common Interest” projects
  - avoiding replication
  - increasing efficiency and service
- MoU open to other RIRs

Joint APNIC / RIPE NCC Projects

- ... currently being agreed:
  - Co-Branding RIPEstat
  - Co-Branding RIPE Atlas
  - Sharing Certification GUI
  - Roadmap WEIRDS services
  - Database re-implementation
  - Other items are in the pipeline
  - Resource sharing / contributions

External Relations Activities

- Goals of RIPE NCC External Relations
  - Build relationships with all public and private sector Internet stakeholder groups
  - Defend the open, bottom-up policy development processes of the Internet community
  - Grow the influence of the RIPE NCC, particularly in government circles
  - Inform the RIPE community of relevant developments in Internet governance discussions
  - Showcase RIPE NCC capacity-building efforts

External Relations Activities

- Capacity building
  - IPv6 Roadshow
    - Four events in 2012, two more planned
    - Plans for expansion to Russian region in 2013
- Internet governance
  - RIPE NCC instrumental in establishing the first Arab IGF event in Kuwait, Oct 2012
  - Preparing for global IGF in Baku, Azerbaijan, Nov 2012
    - Issues to include RPKI, IPv4 trading

External Relations Activities

- Working with government and public sector
  - Preparation for ITU WTSA and WCIT events, Dec 2012
    - Working with CEPT (European administrations), Arab Regional Group, other regional and industry groups
  - Cooperation with Law Enforcement
    - Annual meeting in London, March 2012
    - Middle East LEA meeting planned for Nov 2012
    - Targeted training events with specific agencies
  - Participation in OECD, APEC TEL

And...

All the other invisible stuff...

- Re-design of core IT network
- Set-up of new wireless network
- Backoffice systems integration
- Finance – VAT increase in NL from 1 Oct 2012
- New invoicing system in 2013
- HR keeping on their toes
  - keeping in sync with legislation
  - Health and Pension re-negotiations
- Housing Adventures in protected property

Questions?