

# **RIPE Labs**

## Operators Tools, Ideas, Analysis

Regional Meeting, Dubrovnik, 9 Sept. 2011

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# A Bit of History

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- RIPE NCC started as Coordination Center for the RIPE community (YOU!)
  - RIPE Database, mailing lists, meetings
- Only later RIPE NCC became an RIR
  - Once it was accepted as neutral place
  - Providing platform for operators to coordinate activities

**RIPE Labs - back to the roots**

# What is RIPE Labs?

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- It's a website, but more importantly:
  - It is a platform and a tool **for the community**
  - Launched in Sept. 2009, major update in June 2010
- You can:
  - Test and evaluate new tools and prototypes
  - Contribute new ideas and research results
  - Provide feedback and discuss with others

<http://labs.ripe.net>

# RIPE Labs Home Page

Project Pages

Twitter Feed

Tag Cloud

Comments

My Folder

Articles

Search



The screenshot shows the RIPE Labs Home Page. At the top, there is a navigation bar with the RIPE NCC logo and a search box. Below the navigation bar, there are several menu items: RIPE Database, Database Support, DNS, Statistics & Analytics, Projects, RIPE Labs, and RIPE Atlas. A secondary navigation bar includes links for Labs Home, Users, Data Repository, RIPE Database, Atlas, RIPEstat, and About, along with Log In and Register buttons. The main content area features a large banner for RIPE Labs with a lightbulb icon, the text "RIPE Labs Innovative Internet tools & ideas", a "Register!" button, and a list of benefits: "Share experience", "Showcase tools", and "Present research". Below the banner, there is a "New contributions" section with an RSS icon. The first article is "DNSSEC Deployment Today" by Wolfgang Nagele, dated 30 August 2011 11:00. It includes a map of Europe and a "Read more" button. The second article is "The Big Medical Drop in SpamRankings.net" by John S. Quarterman, dated 29 August 2011 14:45. It includes a line graph showing spam reputational rankings. To the right of the articles is a "tagcloud" section with various tags like "cpe", "dns", "dnssec", "database", "rex", "rpsl", "atlas", "certification", "datarepository", "ipv4", "ipv6", "ipv6day", "measurements", "policy", "reputation", "ripestat", "root-servers", "routing", and "statistics tools". At the bottom right, there is a "Follow us on Twitter" section with a Twitter icon and a list of tweets, including one about an increase in DNSSEC deployment and another about a medical drop in spam rankings.

# Currently on RIPE Labs

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tagcloud

cpe dns dnssec

database rex

rpsl atlas

certification

datarepository

ipv4 ipv6

ipv6day

measurements

policy reputation

ripestat

root-servers

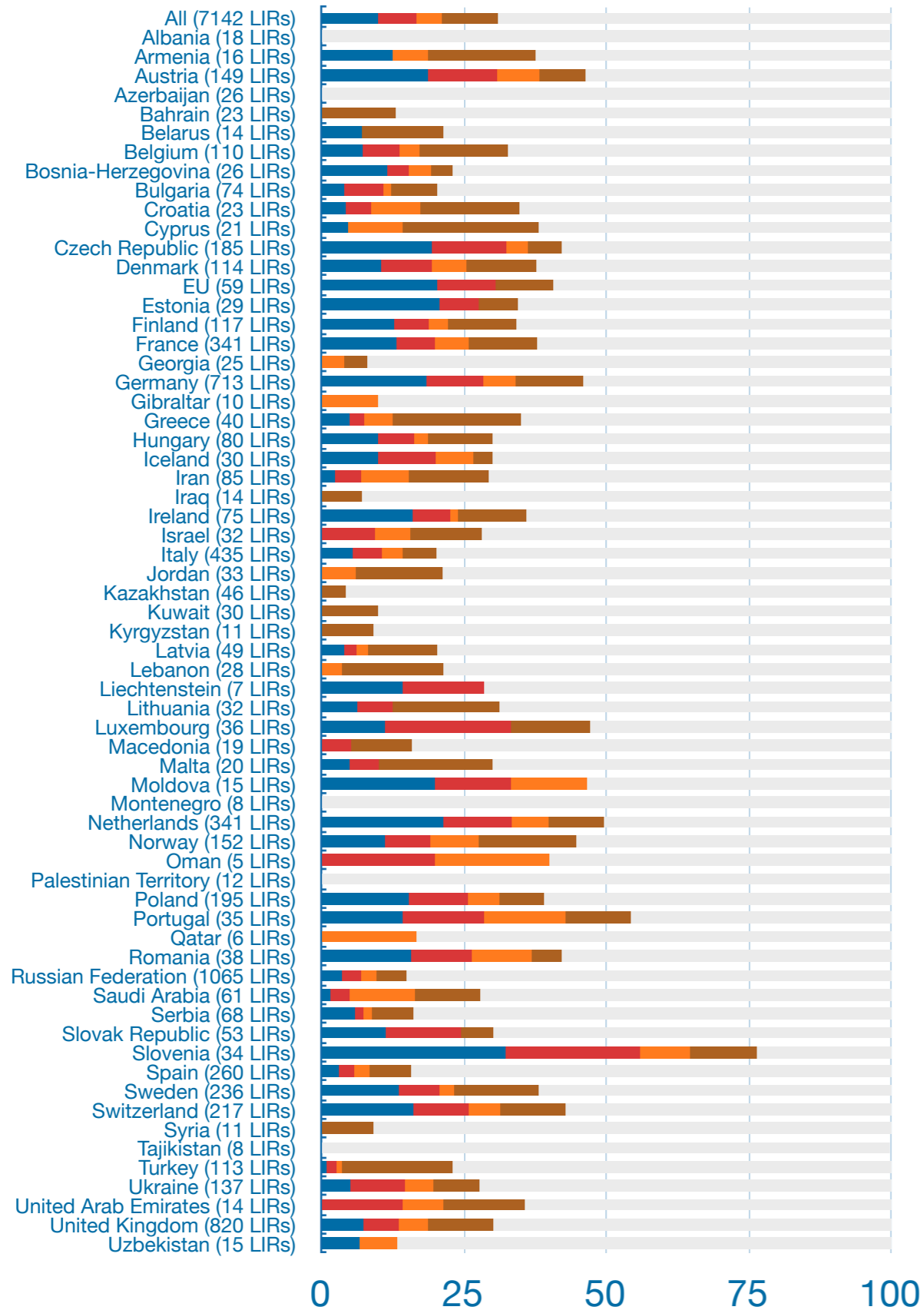
routing

statistics tools

- IPv4 and IPv6 measurements
- RIPE Database API and tools
- RIPE Atlas
- Statistics and Measurements
- Tools (RIPEstat and more)
- and much more...



# IPv6 RIPEness



- Only listing countries with 5+ LIRs
- Large variation between countries
- Overall
  - 27% have at least 1 star
  - 73% still have 0 stars



# IPv6 Customer Premise Equipment

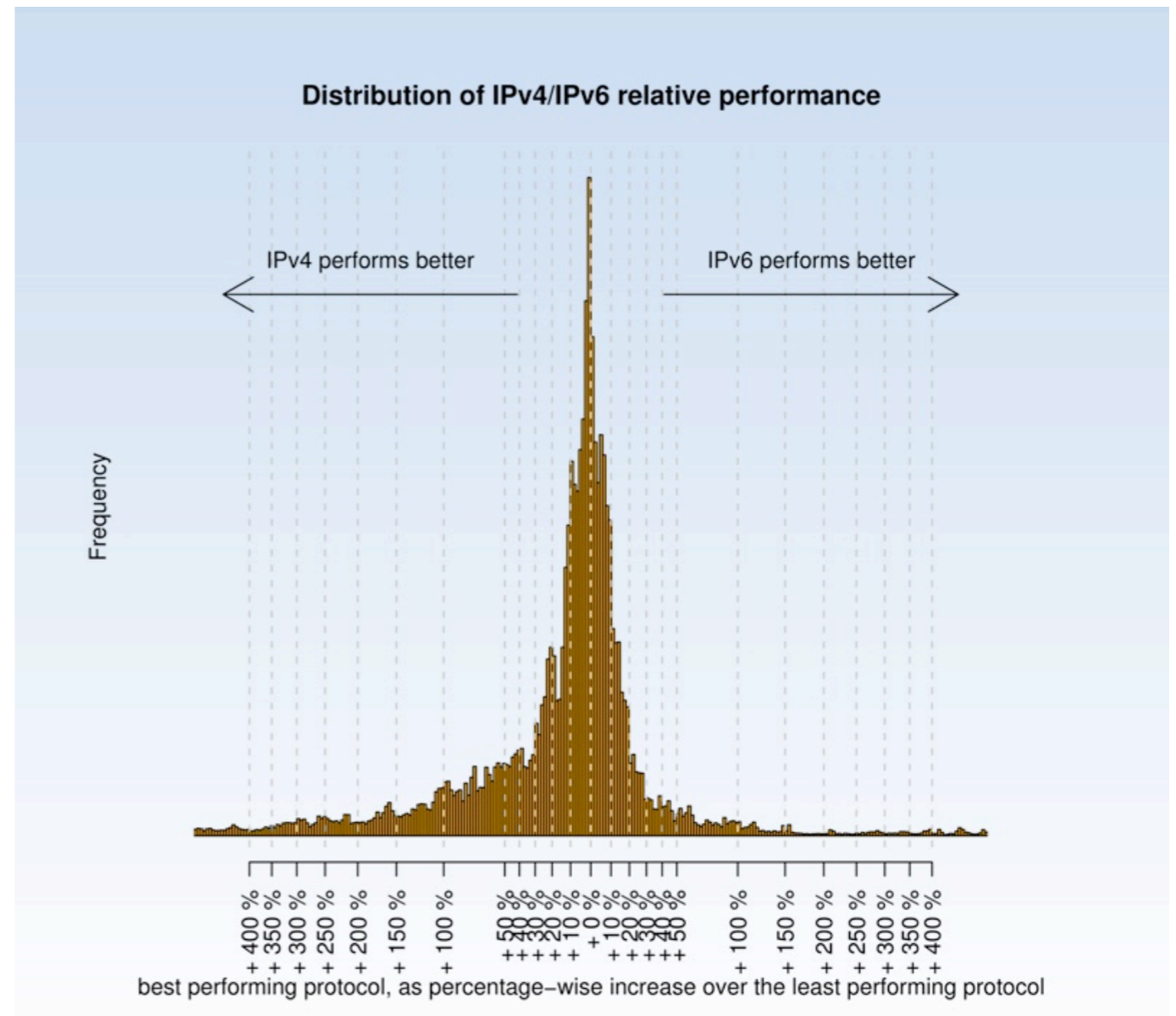
- Survey among CPE vendors
- Results updated regularly on RIPE Labs

	<b>AVM (FRITZ!Box)</b>	<b>Draytek</b>	<b>Zyxel</b>	<b>Juniper (ScreenOS)</b>	<b>Juniper (JUNOS)</b>	<b>Cisco</b>	<b>D-Link</b>
<b>Hardware version required</b>	7270, 7570	Vigor 2130 series, vigor 120	All models released in 2010	All	All	Most SOHO boxes	Most new boxes
<b>Minimum software level required</b>	"Labor" only	2130:v1.3.0 120:v3.2.4.3	Per model, check vendor	6.1	10.2	12.4T or 15	see notes
<b>Status</b>	Beta	General deployment	Beta	General deployment	Early deployment	General deployment	General deployment
<b>WAN layer 2</b>							
<b>Docsis 3.0</b>	vendor	no	no	no	no	-	-
<b>ADSL 2+</b>	confirmed	120 only	vendor	confirmed	confirmed	confirmed	no
<b>VDSL</b>	confirmed	no	vendor	no	vendor	-	no
<b>Ethernet</b>	confirmed	vendor	vendor	confirmed	confirmed	confirmed	confirmed
<b>FTTx</b>	-	vendor	vendor	no	no	-	no
<b>WAN Layer 3</b>							
<b>PPPoA</b>	confirmed	no	vendor	no	vendor	confirmed	no
<b>PPPoE</b>	confirmed	confirmed	vendor	confirmed	confirmed	confirmed	vendor
<b>RFC1483/bridge</b>	vendor	no	vendor	no	no	vendor	no
<b>RFC1483/routed</b>	-	-	vendor	vendor	vendor	vendor	no
<b>Plain IP</b>	-	vendor	vendor	confirmed	confirmed	confirmed	no

<http://labs.ripe.net/Members/mirjam/ipv6-cpe-surveys>

# Series of World IPv6 Day Measurements

- Lessons learned
- Long-term effects
- Comparing IPv4 and IPv6 performance



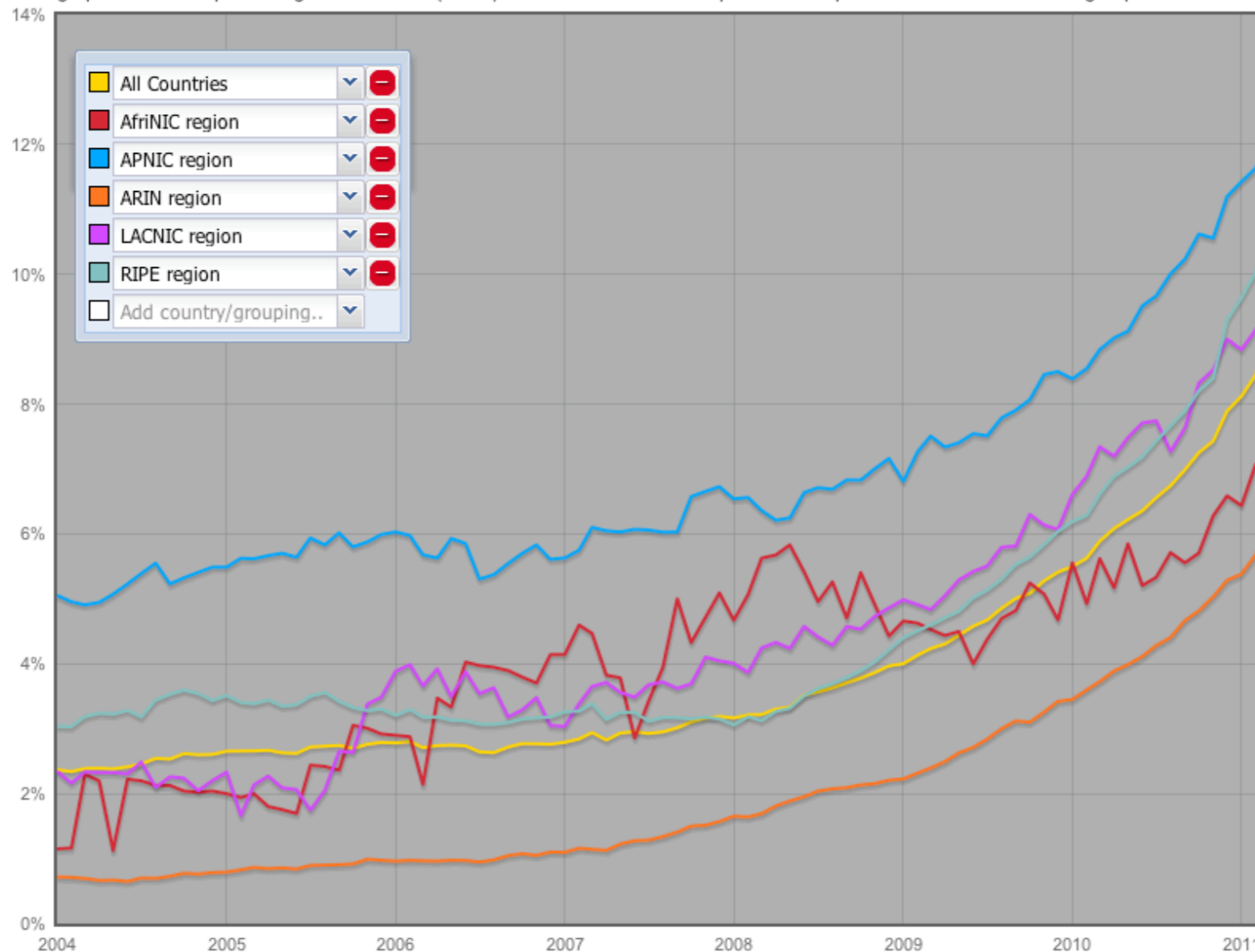
<http://labs.ripe.net/Members/emileaben/>



# IPv6-enabled ASes in Global Routing

- Any country or region possible
- Updated daily, permalink provided

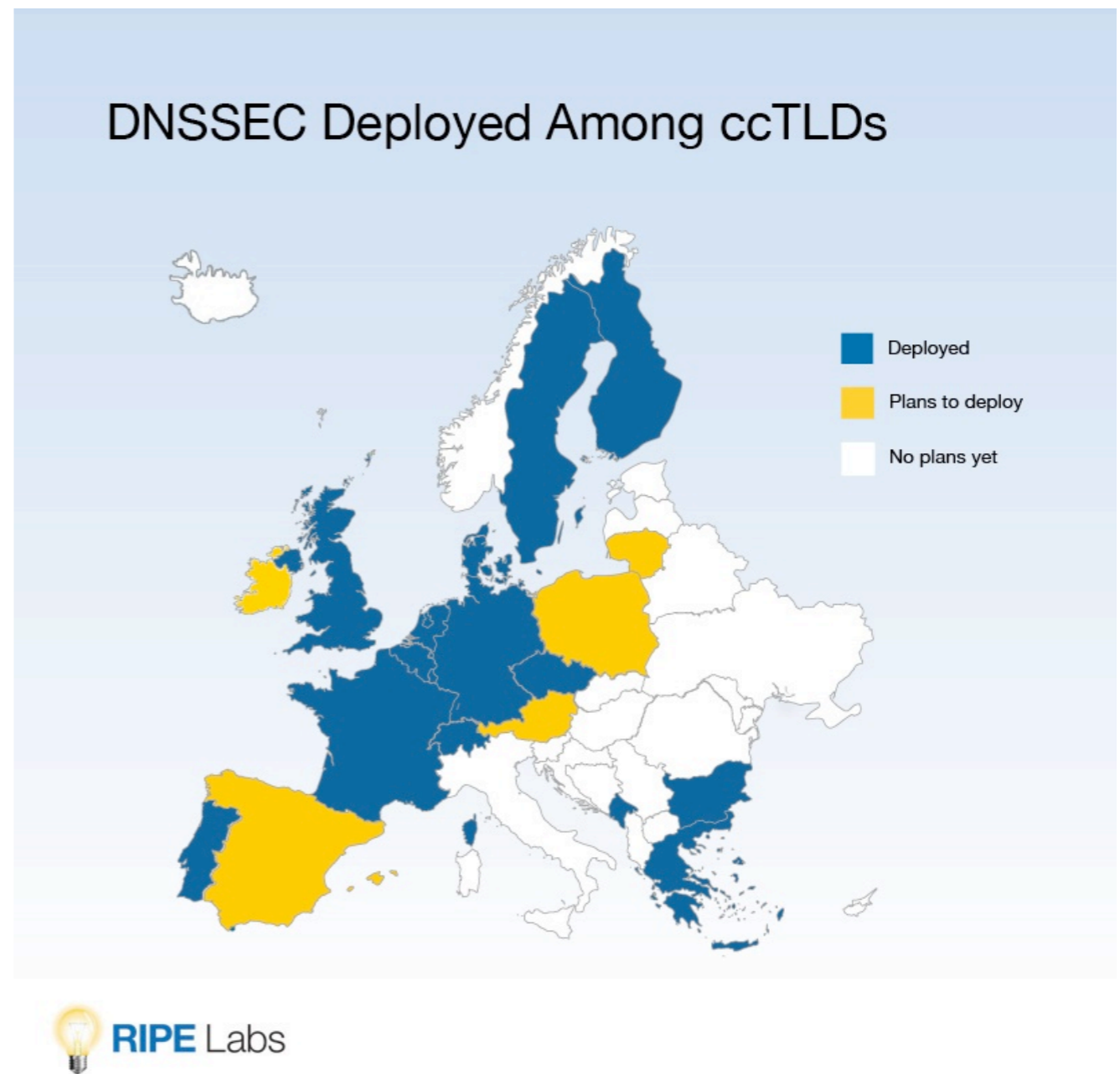
This graph shows the percentage of networks (ASes) that announce an IPv6 prefix for a specified list of countries or groups of countries



<http://v6asns.ripe.net>

# DNSSEC Deployment Today

- Deployment increased since root got signed
- Higher number of DS records in RIPE NCC maintained reverse zones



# RIPE Database - New API and Tools

- Whois data via RESTful interface
- New Global Registry Service
- Abuse Finder Tool
  - Tool to find all abuse related contact information



<http://labs.ripe.net/ripe-database>

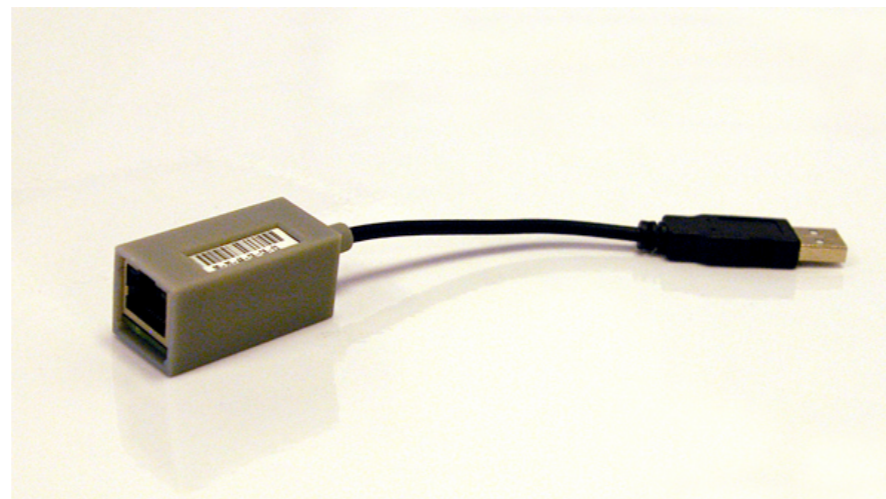
# RIPE Atlas - Active Measurements

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- New project to build next generation Internet measurement network (started in Nov. 2010)
  - Aims to support thousands of measurement nodes
  - Can be hosted by ISPs, IXPs, individuals...
- Currently 350 active probes worldwide

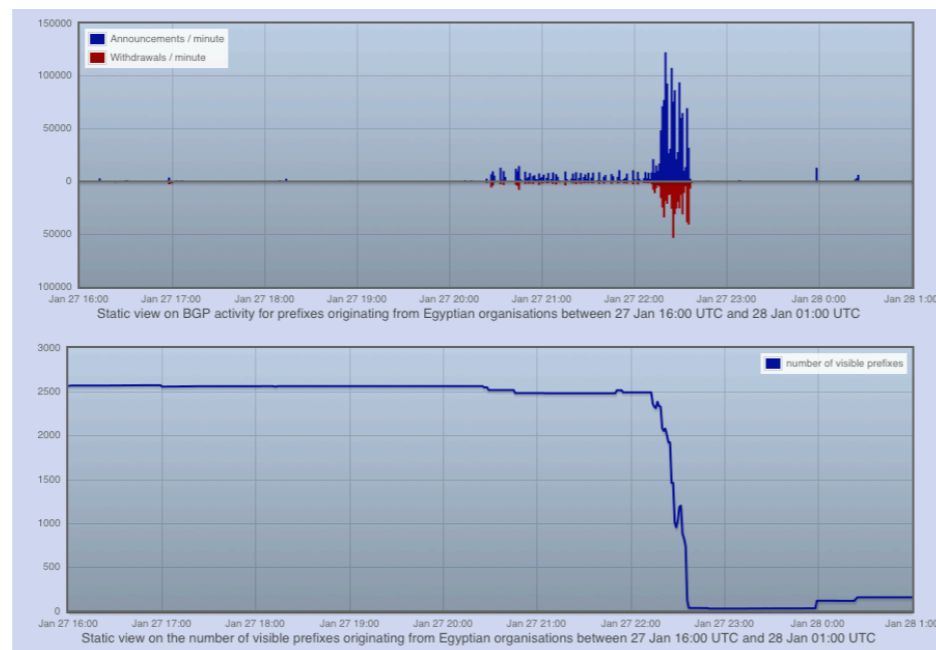
<http://labs.ripe.net/atlas>

<http://atlas.ripe.net/>



# RIPEstat - stat.ripe.net

- Modular and Extendable Toolbox
  - Developed together with the community - you!
- Shows IPv4/IPv6 and ASN info
  - Statistics (time, aggregation, zoom)
  - Status (real-time, aggregation, zoom)





# Reputation System to Fight Spam

- Work done by John Quarterman and U-Texas
  - Economic incentives for providers
  - Various organisational layers
  - ASN rankings and spam blocklists

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ASN	CC	Description	ASN	CC	Description
1	9829	IN BSNL-NIB	1	7643	VN VNPT-AS-VN
2	24560	IN AIRTELBROADBAND-AS-AP	2	9829	IN BSNL-NIB
3	7738	BR T da Bahia S.A.	3	24560	IN AIRTELBROADBAND-AS-AP
4	7643	VN VNPT-AS-VN	*4	17974	ID TELKOMNET-AS2-AP
5	6849	UA UKRTELNET JSC UKRTELECOM	*5	2856	GB BT-UK-AS
*6	27699	BR T DE SAO PAULO SA	6	25019	SA SAUDINETSTC-AS
*7	9050	RO RTD ROMTELECOM S.A	7	6849	UA UKRTELNET JSC UKRTELECOM
*8	5384	AE EMIRATES-INTERNET	*8	12322	FR PROXAD Free SAS
*9	8167	BR TELESC	*9	18403	VN FPT-AS-AP
10	25019	SA SAUDINETSTC-AS	10	7738	BR T da Bahia S.A.

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<http://labs.ripe.net/Members/jsq>

# Why RIPE Labs?

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- Faster, tighter innovation cycle
  - Provide useful prototypes early in the development
  - Adapt to changing environment and requirements more quickly
- Closer involvement of the community
  - Openness
  - Make it easier and more effective to provide feedback and suggestions

# Suggestion and Questions

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- Please take a look and **participate**
- Leave a comment under an article
- Questions and suggestions to **labs@ripe.net**

**<http://labs.ripe.net/>**

Questions?

