

RIPE NCC

Status Update

14th CITC IPv6 Taskforce Meeting

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Breaking News

- Regional expansion is taking shape
- We have a new and bigger office in Dubai
 - Moving in over the next few weeks
- Hiring Arabic staff for the External Relations team

Strengthening the Registry

- Registration Data is our biggest asset
- Need to identify the legitimate holder of an IP Address:
 - Troubleshooting
 - Routing security and stability
 - Anti-Abuse
 - Law Enforcement
 - IPv4 Address Markets

Abuse Contact Information

- Recent change in RIPE Database
 - RIPE Document ripe-563
- “Abuse-c” role object pointing to a dedicated contact that handles abuse complaints
- Instructions on how to set it up on RIPE Labs:
 - <https://labs.ripe.net/Members/denis/creating-and-finding-abuse-contacts-in-the-ripe-database>
- Applies to both IPv4 and IPv6

Contractual Requirements for PI addresses

- Often referred to as the “2007-01 Project”
- Policy change that requires the RIPE NCC to hold a copy of the contract and proof of identity of the PI address holder:
 - Commercial registration papers the most likely
 - Or some other document that is proof of existence
- Not a project to reclaim IPv4 addresses

2007-01 Project Phase 3

- Contact all holders and have them upload the required documents
- Completed for 98% of the resources
- Now handling the remaining resources:
 - 1) Email all known contacts on file
 - 2) Place phone calls to holders and members
 - 3) When no contact can be established, we have to start a deregistration process for those resources

De-registration of Resources

- Documented in ripe-594
 - Includes non-compliance with Address Policy
- Process takes over 3 months
 - Send email to all registered contacts
 - Four week window to respond
 - Block further updates to RIPE Database
 - Remove reverse DNS
 - Contact upstreams
 - Finally: return resources to the free pool

Redesign Audit Procedure

- Try to contact all members every 3 years
- Verify the registration details on file:
 - All email addresses still valid?
 - Phone numbers up to date?
 - All contact persons still working for you?
 - Resources still in use and details correct?
- Light weight process requiring little resources
- Maintain Registration Data quality

Proposal 2013-03: “No Need”

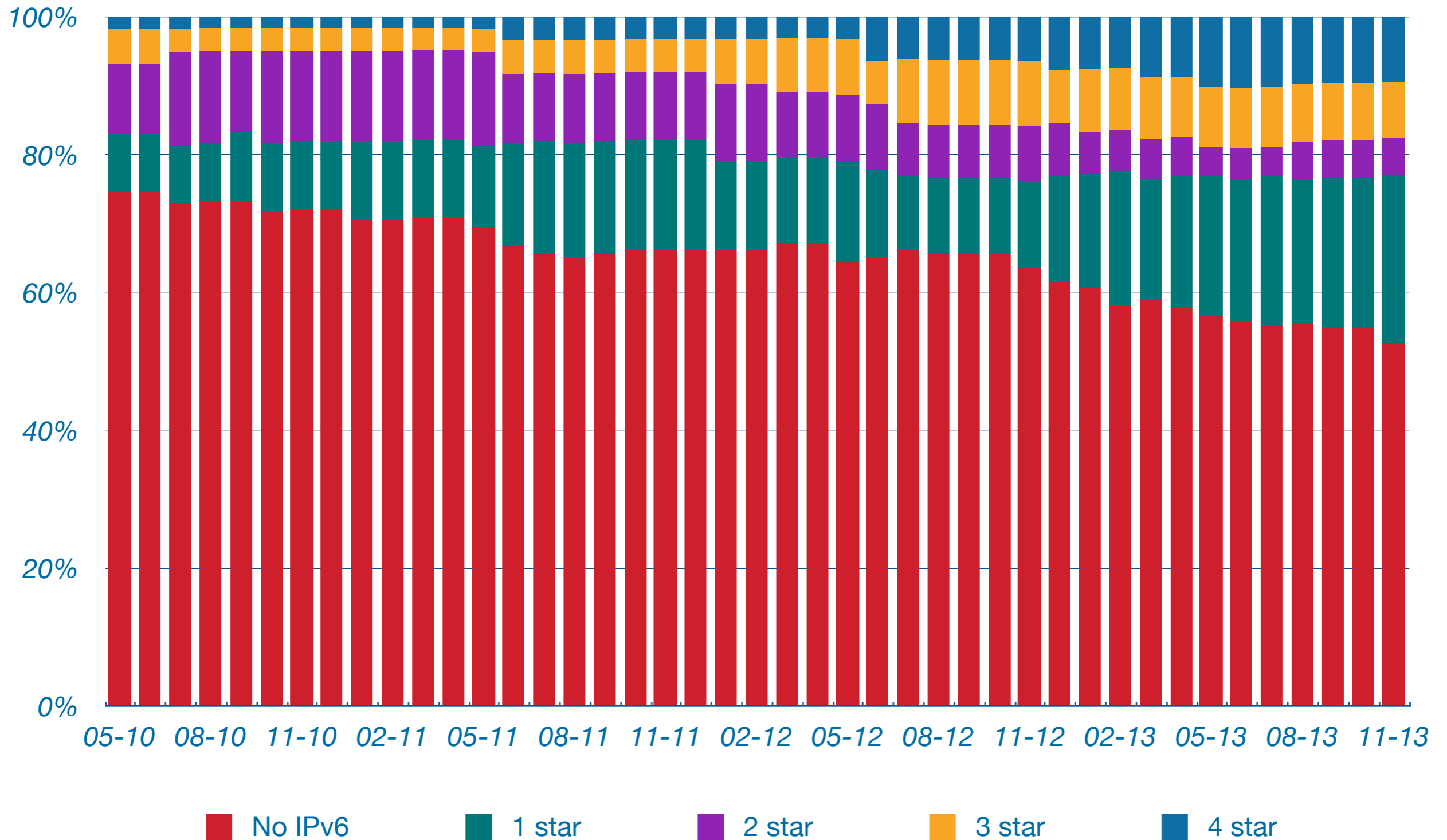
- “Less paperwork” proposal
- Re-adjust Address Policy to current reality
- Only one size of allocation made: /22
 - No need to file all details of deployment
 - Just promise you will be using the addresses
- Still have safeguards against stockpiling
- Still have fair distribution of resources
 - One /22 per member

IPv6

IPv6 RIPEness Measurement

- Measures IPv6 deployment amongst members
 - First star: when you have IPv6 addresses
 - Additional stars for Routing, Reverse DNS and a Route6 object
 - Daily statistics via <http://ripeness.ripe.net>

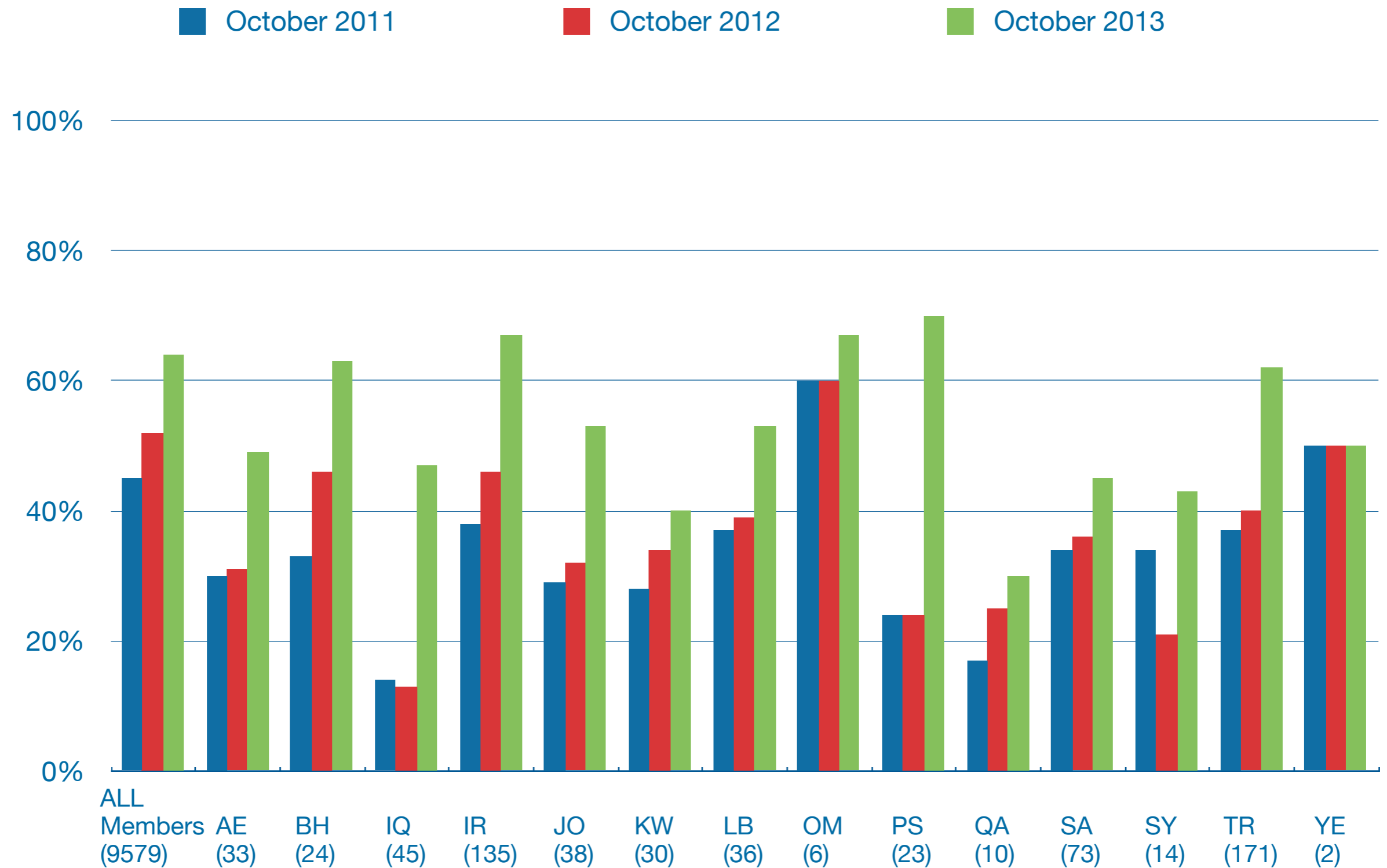
RIPEness Saudi Arabia



Saudi Arabia Membership

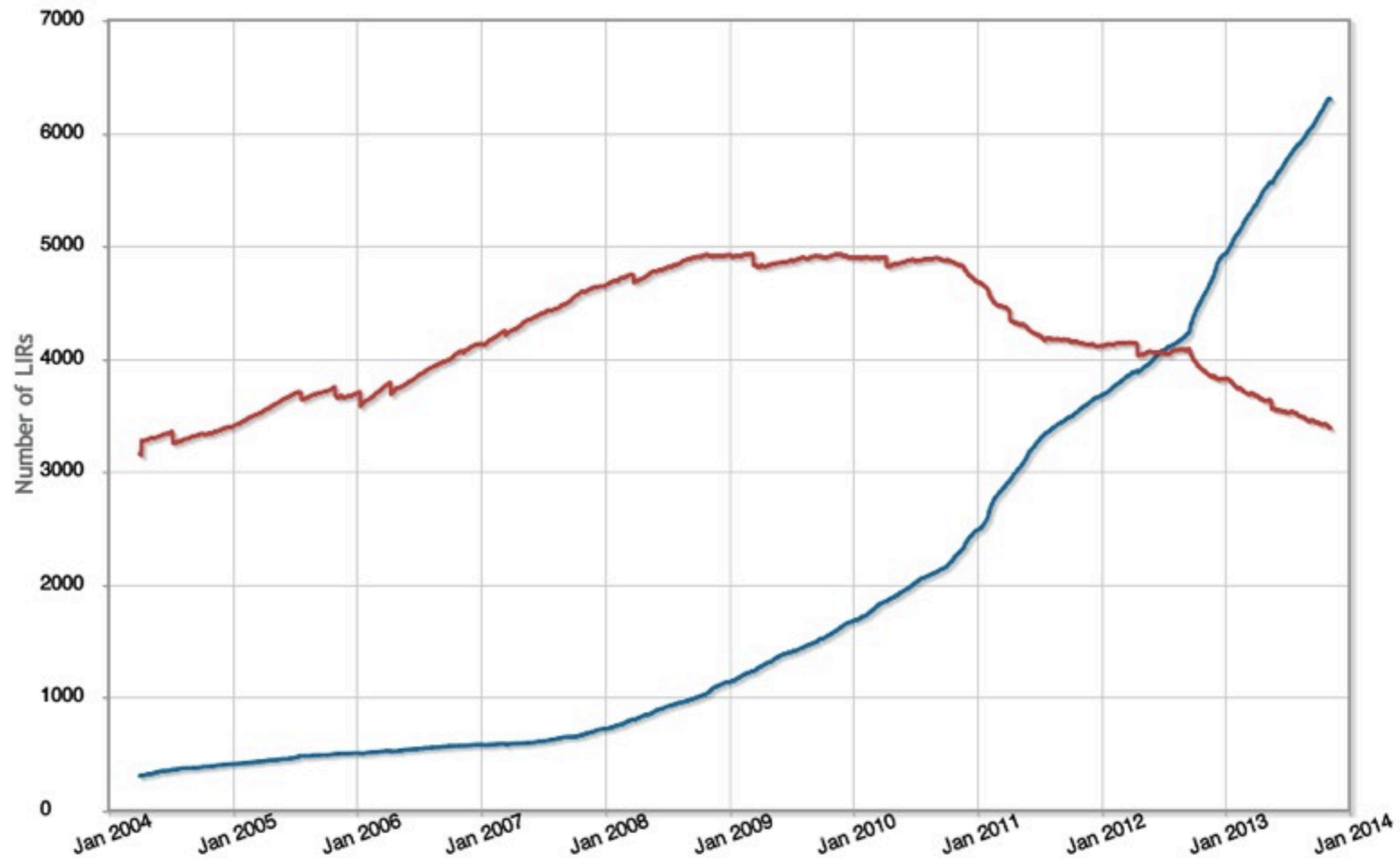
- Increased this year from 66 to 74 members
- 35 members have IPv6 addresses
 - Was 26 on January 1st, 2013
- Final /8 policy:
 - You can get one /22 per member
 - Only if you also have IPv6 addresses

Members with IPv6 in Region



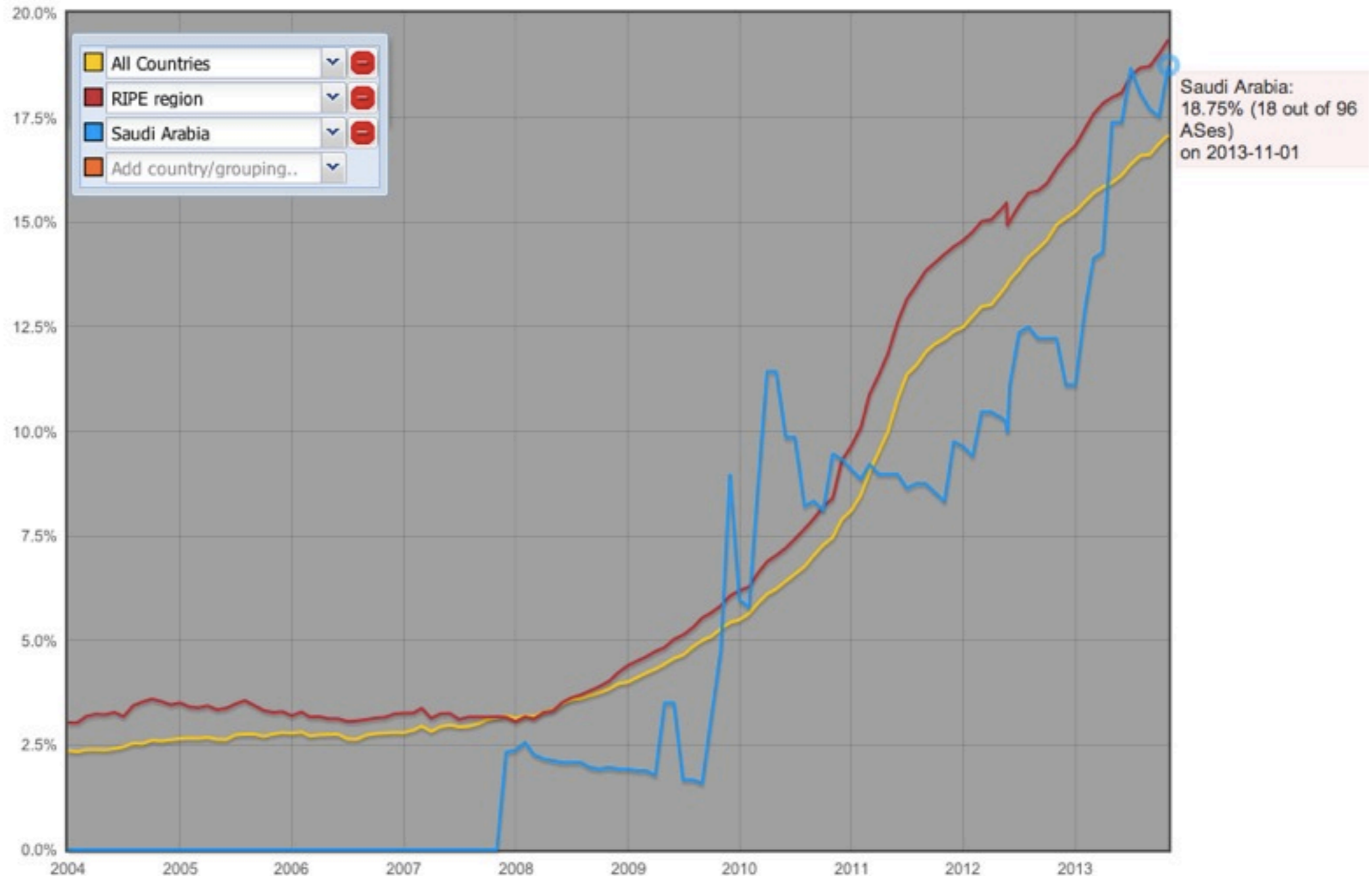
Members With and Without IPv6

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



IPv6 in Routing Table

- <http://v6asns.ripe.net>



IPv6 Users Globally

Nationally, who's deploying IPv6 over the past year?

2013 Rank	Economy	Diff (%)	Diff IPv6 User Count
1	Switzerland	+9.92%	+ 649,202
2	Luxembourg	+4.37%	+ 20,486
3	Belgium	+4.07%	+ 331,153
4	Romania	+3.44%	+ 411,848
5	Germany	+2.92%	+1,994,568
6	Peru	+2.41%	+ 272,327
7	Japan	+2.38%	+2,370,677
8	United States	+1.71%	+4,267,580
9	Czech Republic	+1.57%	+ 117,509
10	Singapore	+1.43%	+ 48,524
11	France	+1.43%	+ 810,545
12	Greece	+0.70%	+ 40,530
13	Norway	+0.70%	+ 30,344
14	Taiwan	+0.48%	+ 81,337
15	Portugal	+0.46%	+ 29,002
16	Australia	+0.44%	+ 71,831
17	Netherlands	+0.43%	+ 68,555
18	New Zealand	+0.35%	+ 13,174
19	South Africa	+0.33%	+ 34,022
20	Bosnia and Herz.	+0.32%	+ 8,914

Source: Geoff Huston

<https://ripe67.ripe.net/presentations/115-2013-10-16-ipv6-launch-365.pdf>

Re-thinking Our Outreach Strategy?

Getting Management Involved

- Most technical people know about IPv6
 - They are aware they have a problem
 - They received training about the solution
- Actual deployment is low
 - Management knows there is a problem
 - No background on the solution
- IPv6 is considered a risk
 - Unknown technology
 - Costs money

Cost of Sustaining IPv4

- IPv4 addresses address market
 - Expect prices to increase with demand
- Address sharing technologies
 - NAT444 equipment cost money
 - Need regular upgrades for bandwidth
- Documented by Lee Howard (TWC)
 - https://ripe67.ripe.net/presentations/188-The_Cost_of_IPv4-IPv6_Transition.pdf

Cost of Deploying IPv6

- Replacing or updating CPE
 - What is the lifetime of these devices?
- Technology upgrade in backbone
- Increased cost of support
 - Additional calls
 - Additional staff training
- IPv6 traffic will increase over time
 - Offload traffic from CGN Equipment

Increased Risk of Running IPv6?

- It is all about risk management
 - More and more operators are deploying IPv6
 - With increased usage comes increased stability
- If running IPv6 would be problematic, we would have seen the reports

Internet Governance Forum 2014

- Big high-level conference, 1500+ participants
- Indonesian host provided a dual-stack network
 - No increase in complaints, it just worked
 - 20% of the total traffic was using IPv6
- Network problems experienced mostly due to issues with the wifi radio signal
- RIPE Meetings dual-stack for 10+ years

Running IPv6 Only

- Experimented at recent RIPE Meeting
- Additional network configured “IPv6 Only”
 - Provided NAT64 translation to reach the world
- Worked wonderfully well
 - People sometimes didn’t even realise they were using the IPv6 only network
- Problems related to OS and client software
 - Software tests only for working IPv4 connection

T-Mobile US on IPv6 Only

- Providing millions of customers with IPv6 Only
- Ran into problems with applications expecting IPv4 to be present
- Using 464XLAT as a work around
 - Deployed directly on phone OS
 - Provides (fakes) an IPv4 interface
- Several Android models now support this

Outreach to Software Engineers?

- Supporting IPv6 is not enough
- Make sure you can do without IPv4

- Get more hosts to support 464XLAT?

More Resources

- RIPE Labs
 - <http://labs.ripe.net>
- IPv6 Working Group
 - <http://www.ripe.net/ripe/groups/wg/ipv6>
- MENOOG
 - <http://www.menog.org>

MENOG 14 Meeting in Dubai

- Conference: 30 and 31 March, 2014
- Tutorials day
- Training workshops
- 2nd Middle East Peering Forum

Questions?

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