



RIPE NCC
RIPE NETWORK COORDINATION CENTRE

The Challenges Ahead In IPv6

“Waiting is not an option”

Before we start...



Why am I here?



The RIPE NCC



- Not for profit organisation
- One of the 5 Regional Internet Registries
- We distribute IPs
- We help with Internet coordination and operation
- We measure the Internet

IPv4 (is) history



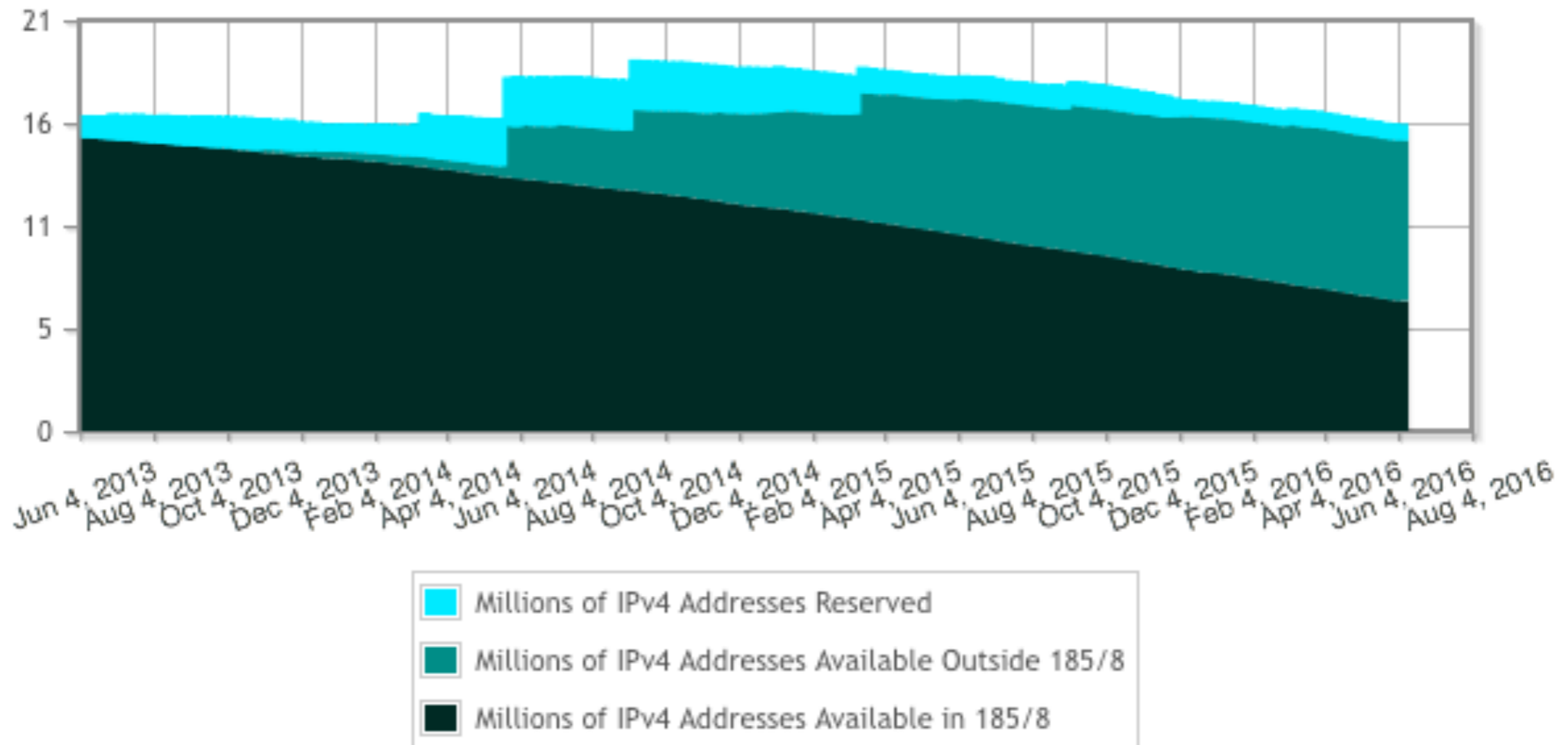
- Since 2011, the global IPv4 pool is empty
- Since 2012, RIPE NCC distributes from “Last /8” block
- Other RIRs (ARIN, APNIC) already have nothing left
- Remaining IPv4 pools are quickly going empty



Our Available IPv4 Space



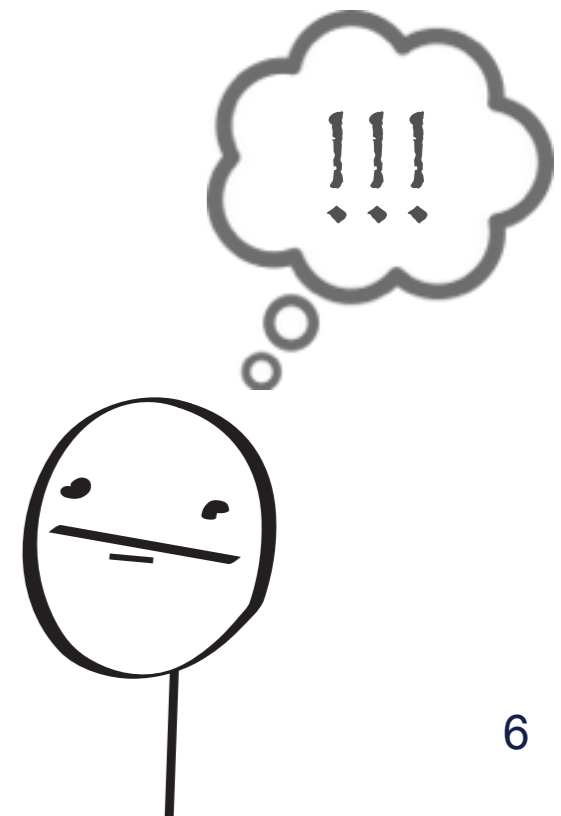
RIPE NCC IPv4 Pool – Last 36 Months



Why do I tell you this?



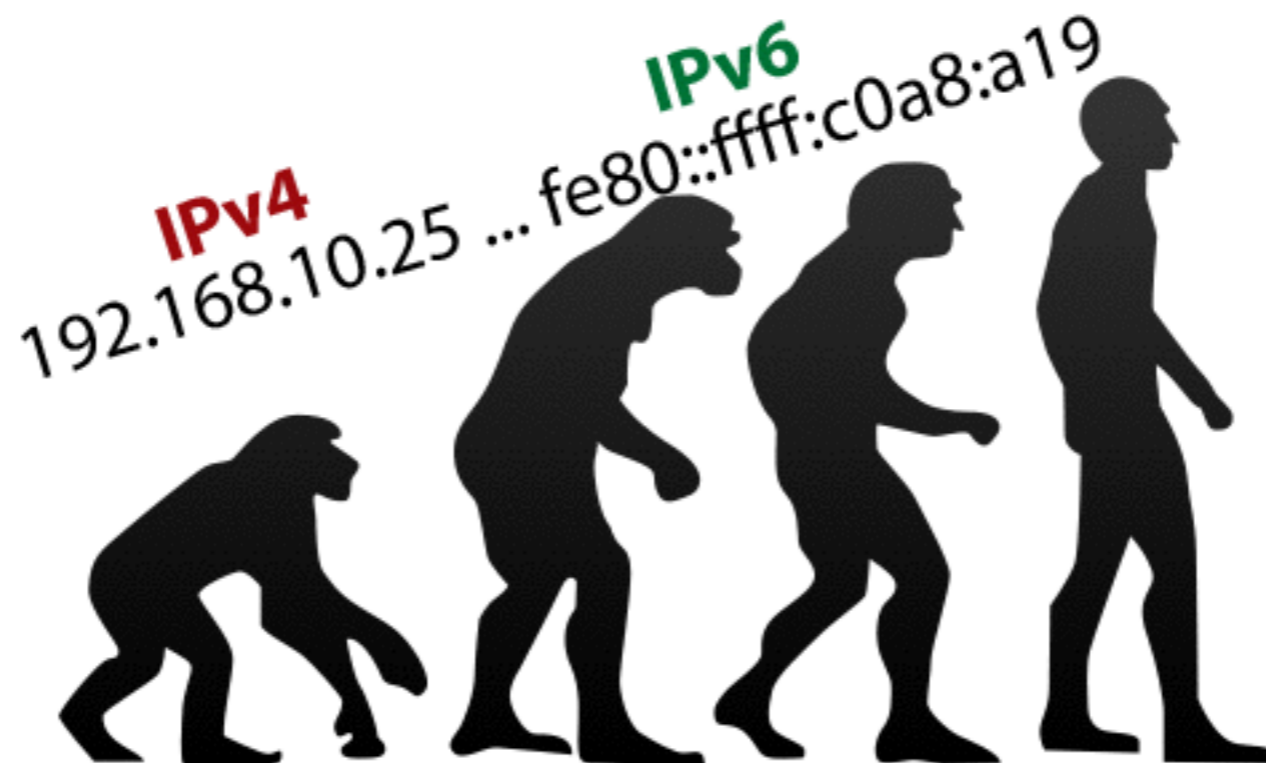
- The Internet keeps growing
- Around 3,4 billion Internet users now
 - around 46,5 % of all people
- Many more devices than IPv4 addresses
- Internet of Things
- eGovernment
- And everything else that is happening!



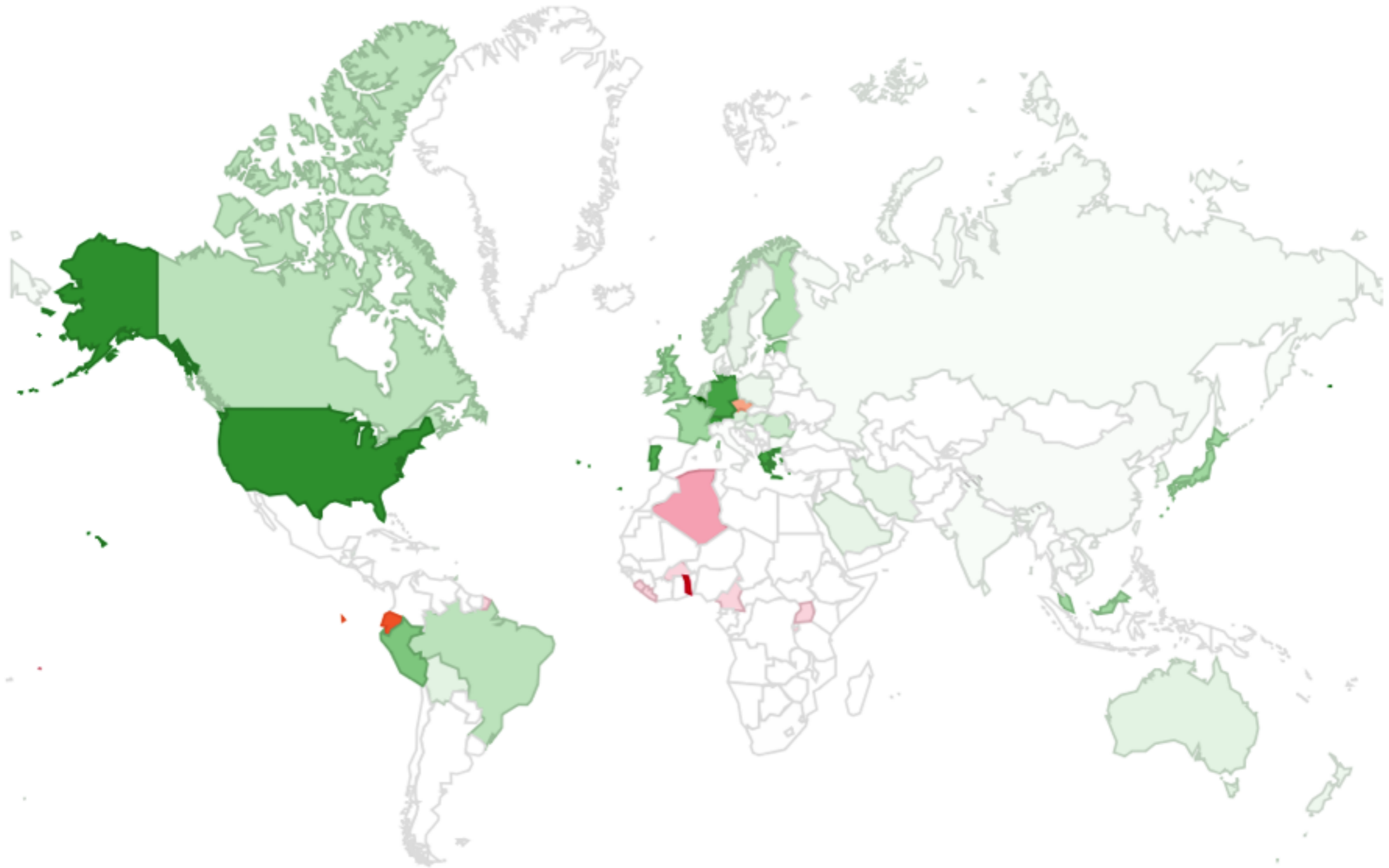
The Importance of IPv6



- Sustainable Internet growth
- More room for innovation
- Business continuity
 - The world is moving to IPv6

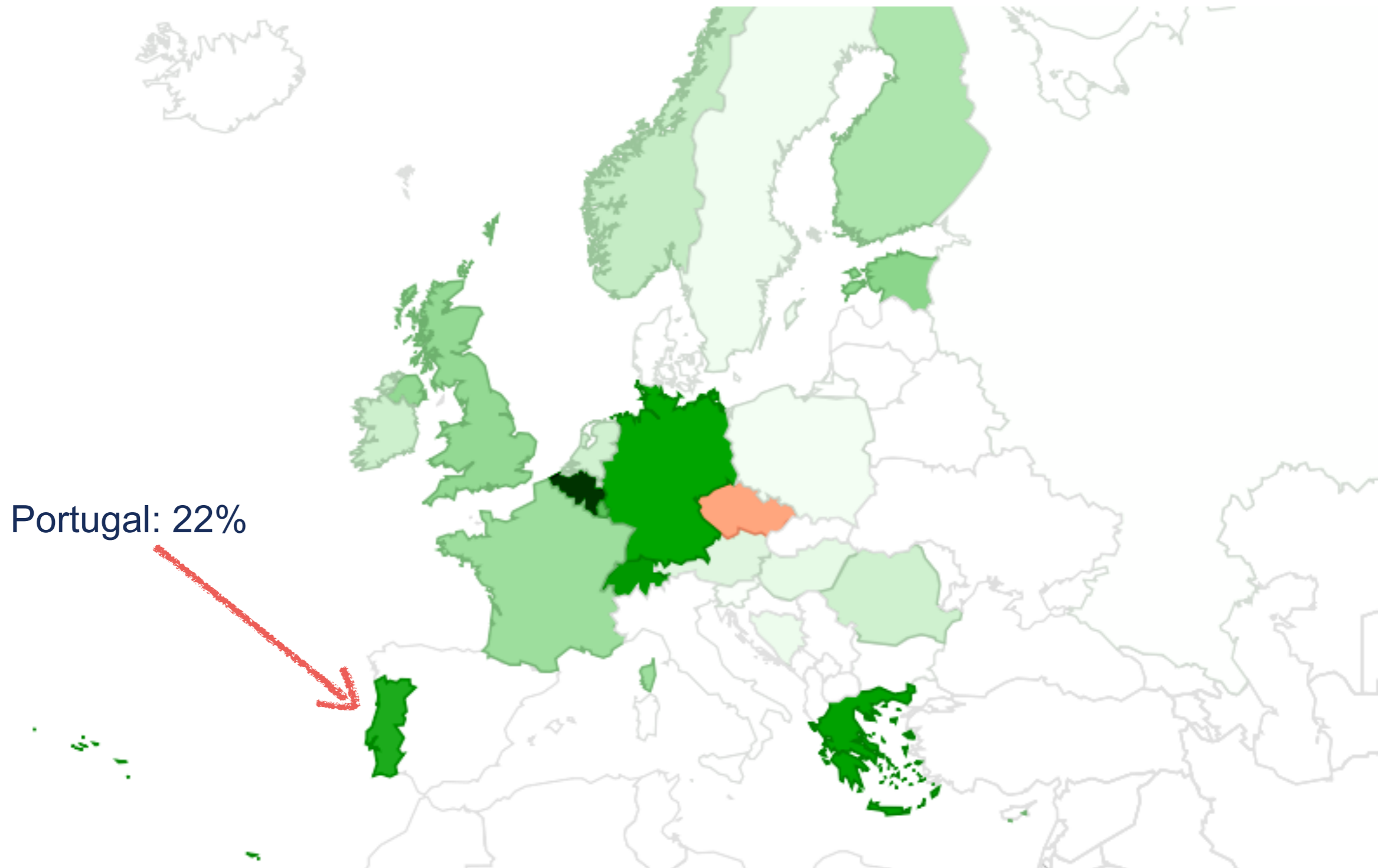


The World and IPv6



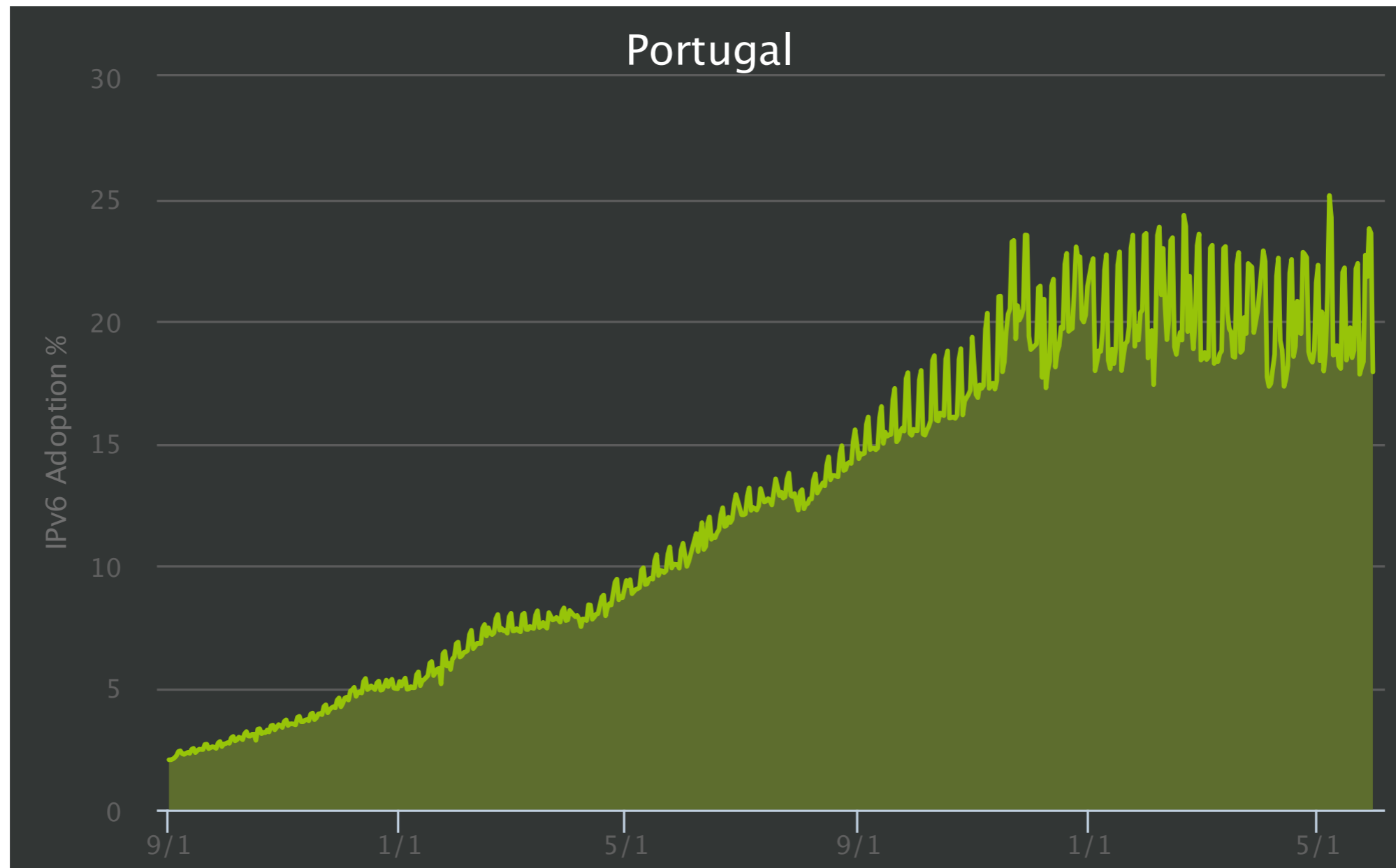
Source: Google

Europe and IPv6



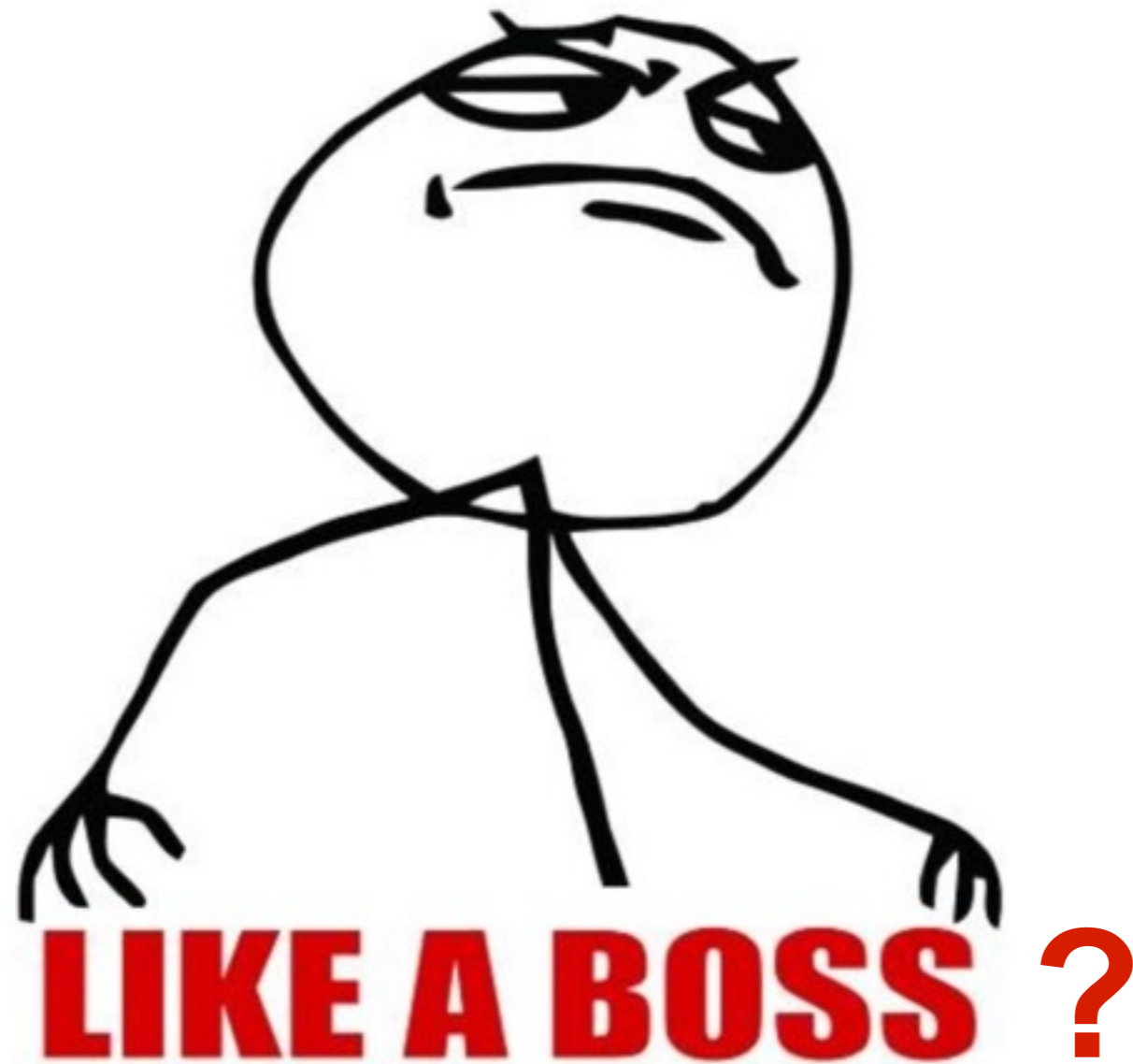
Source: Google

Portugal and IPv6



Source: Akamai State of the Internet Report

Looking good?



Wait a minute...



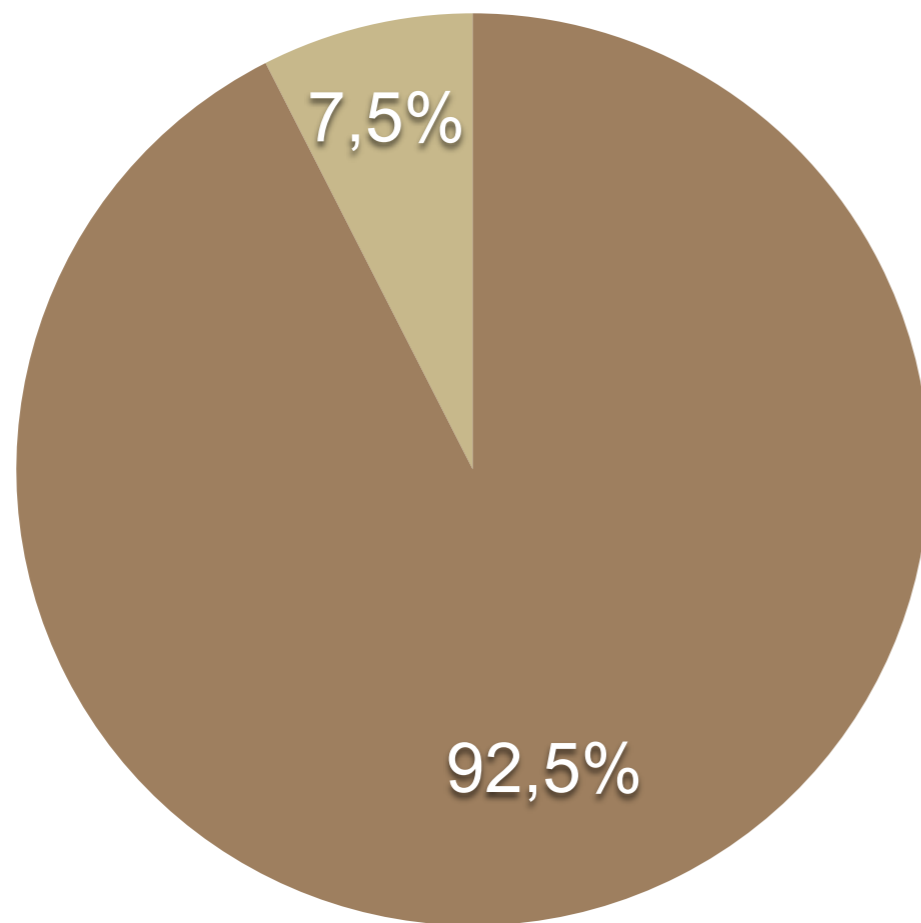
- We have other measurements!
- IPv6 RIPEness
 - One star if the member has an IPv6 allocation
 - Additional stars if:
 - IPv6 prefix is announced on router
 - A route6 object is in the RIPE Database
 - Reverse DNS is set up
- Fifth star if more than 16% content or access over IPv6

LIRs with 5 Stars

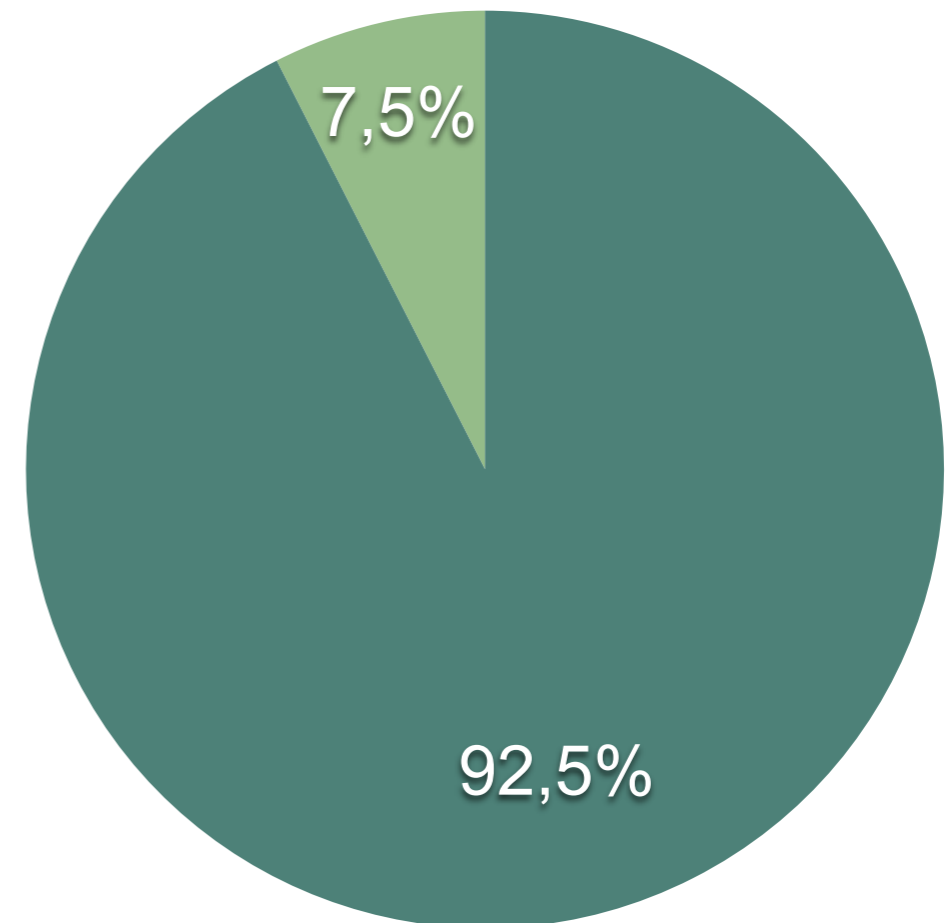


Portugal

53 members in total



Content



Access

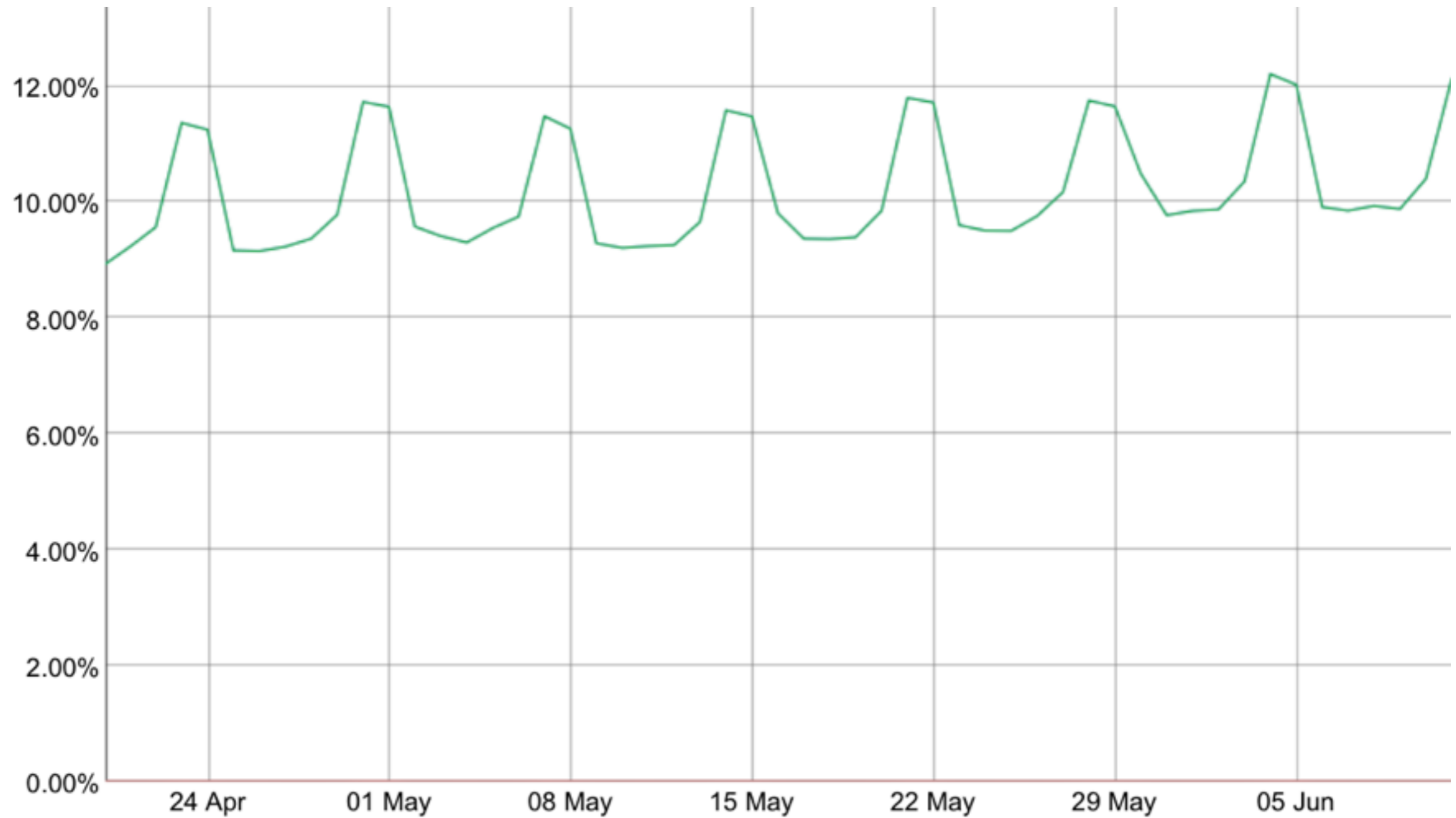
<http://ripeness.ripe.net/5star/PT.html>

How much content actually?



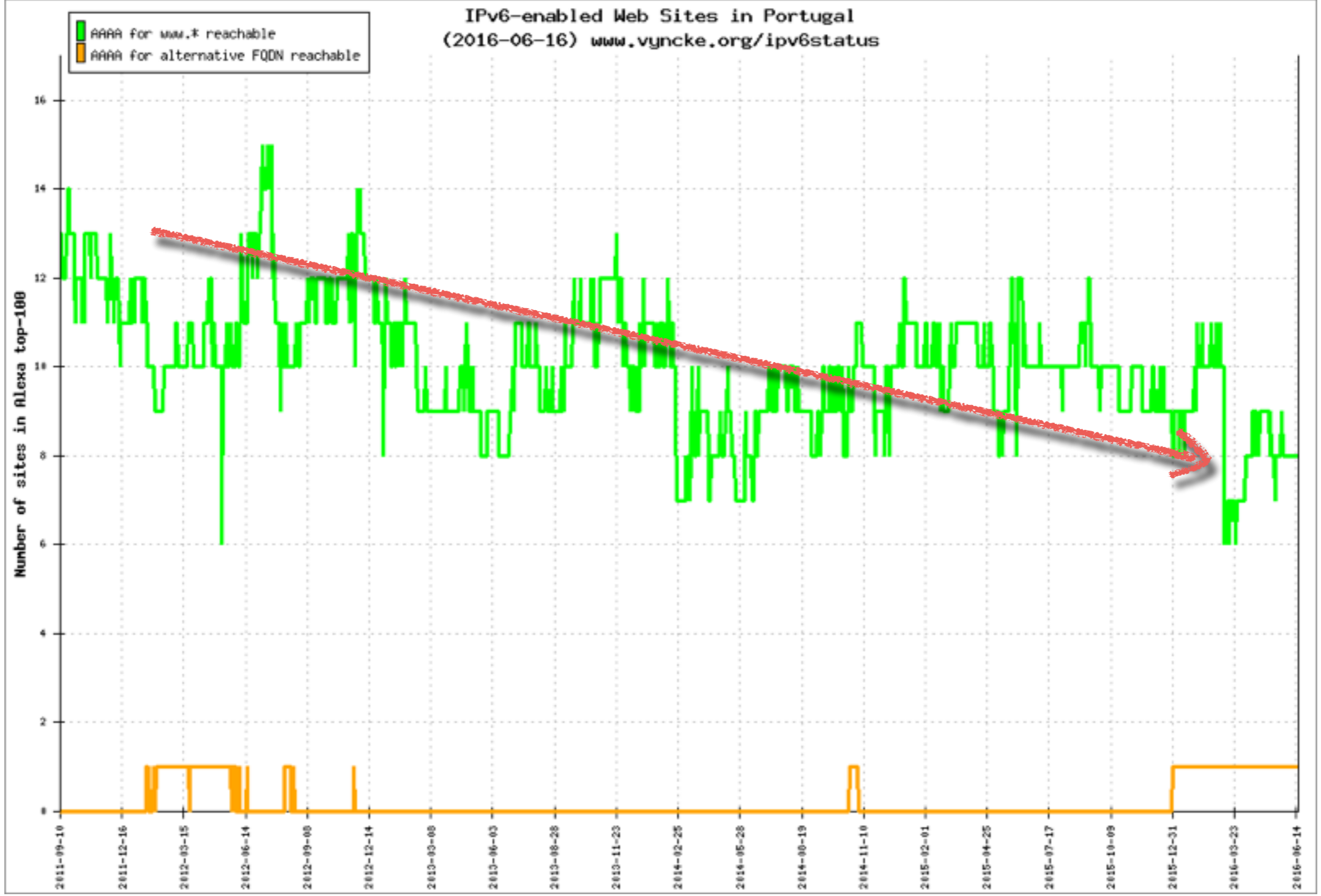
Content	LIR	
100%	Associacao DNS.PT	
72%	Cabovisao, televisao por cabovisao, sa	
39%	MEO - SERVICOS DE COMUNICACOES E MULTIMEDIA S.A.	
22%	Fundacao para a Ciencia e a Tecnologia, I.P.	
32%	ALWAYSDATA SARL	<Registry based in FR>
65%	Cogent Communications Group, Inc.	<Registry based in EU>
100%	DIDWW Ireland Limited	<Registry based in IE>
100%	Global Telephone & Telecommunication S.A. (GT&T)	<Registry based in BE>
100%	HostRoyale Technologies Pvt Ltd	<Registry based in IN>
100%	SwiftServe Ltd.	<Registry based in UK>
47%	ISPpro Internet KG	<Registry based in DE>
95%	Liebherr-IT Services GmbH	<Registry based in DE>
17%	Linode, LLC	<Registry based in EU>
43%	Sean McRobbie PE	<Registry based in UK>
16%	United Nations International Computing Centre	<Registry based in CH>

All those IPv6 users...



Source: Google

...Where are they going then?



Source: vyncke.org

A good reason to do IPv6

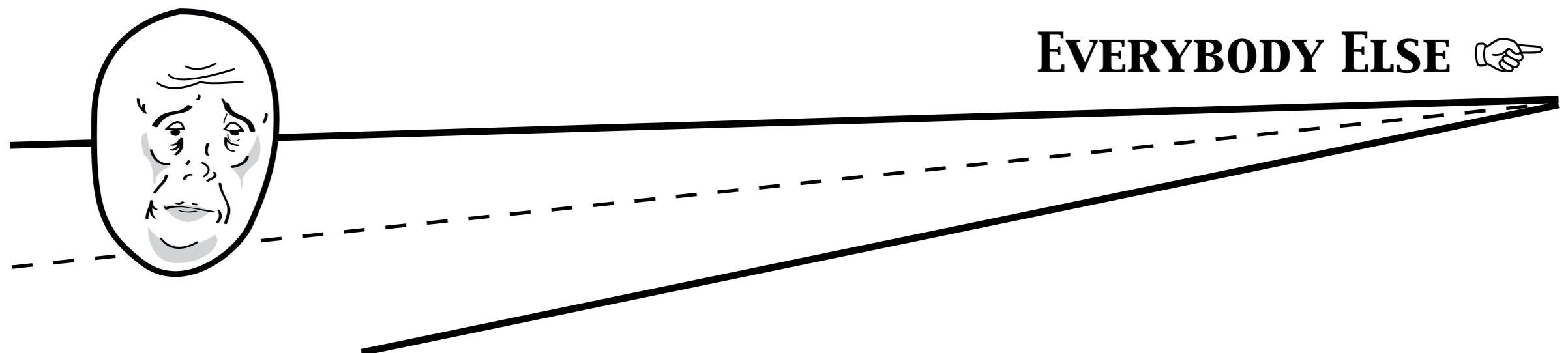


“Someone calling themselves a customer says they want something called service.”

Things to consider



- For many organisations it takes two years to transition
- Most costs are:
 - man hours
 - software updates
- The more you wait, the further behind you will be





What can you do?

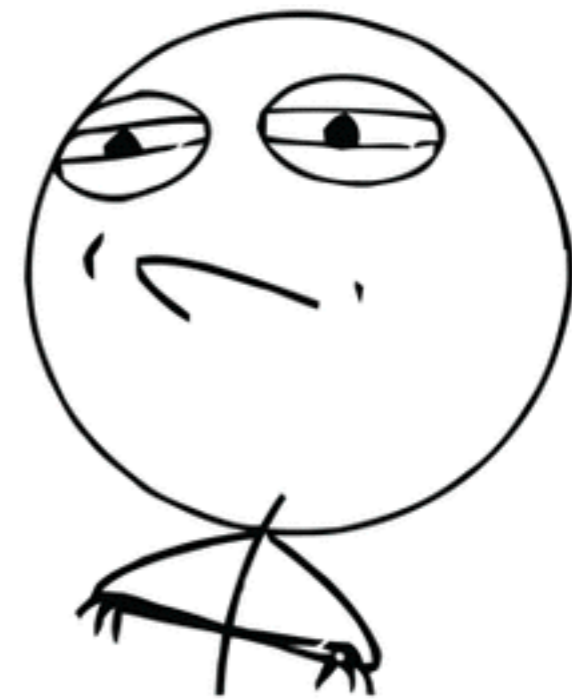
Some tips and tools

How to get started



- Check your current hardware and software
- Change purchasing procedure (feature parity)
- Plan every step and test
- One service at a time
 - face first
 - core
 - customers

CHALLENGE ACCEPTED



RIPE-554 Document



- “Requirements for IPv6 in ICT Equipment”
 - Best Current Practice describing what to ask for when requesting IPv6 Support
 - Useful for tenders and RFPs
 - Originated by the Slovenian Government
 - Adopted by various others (Germany, Sweden)

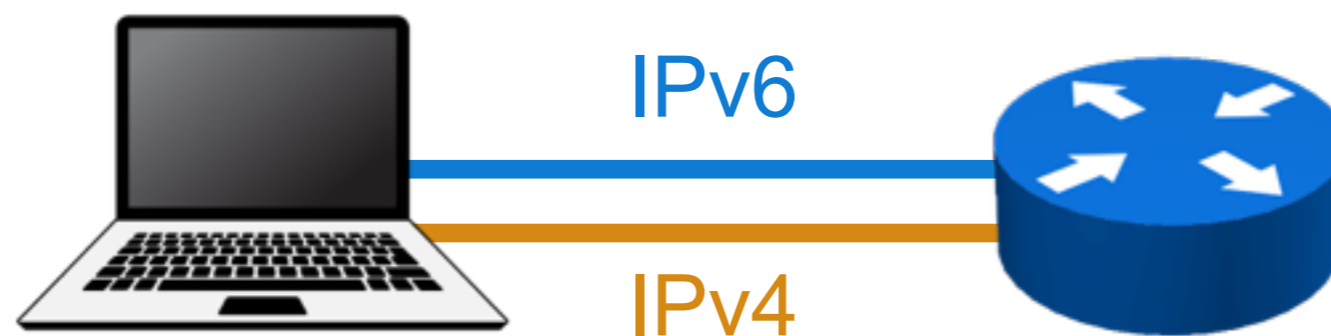
<https://www.ripe.net/ripe/docs/ripe-554>

Start The Transition Today!



How?

Dual Stack





And the RIPE NCC?

What we can do for you

We have for you...



IPv6 ACT NOW



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Remember...



The Internet is a team effort!





Questions



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