

Unlocking Operator Measurements

- Phil Roberts
- Internet Society





THE FUTURE IS FOREVER
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www.WorldIPv6Launch.org

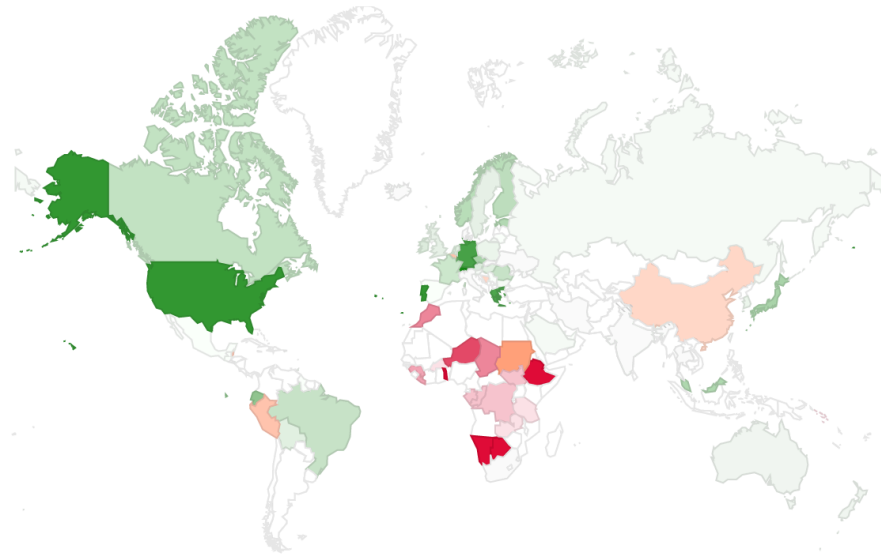
IPv6 Deployment Status

Show 10 entries Search:

Rank	Participating Network	ASN(s)	IPv6 deployment
1	Comcast	7015, 7016, 7725, 7922, 11025, 13367, 13385, 20214, 21508, 22258, 22909, 33287, 33489, 33490, 33491, 33650, 33651, 33652, 33653, 33654, 33655, 33656, 33657, 33659, 33660, 33661, 33662, 33664, 33665, 33666, 33667, 33668, 36732, 36733	41.39%
2	ATT	6389, 7018, 7132	52.71%
3	KDDI	2516	22.79%
4	Verizon Wireless	6167, 22394	68.60%
5	Time Warner Cable	7843, 10796, 11351, 11426, 11427, 12271, 20001	24.70%
6	T-Mobile USA	21928	47.39%
7	Deutsche Telekom AG	3320	24.44%
8	SoftBank	17676	9.13%
9	TELUS	852	45.45%
10	GVT	18881	16.33%

Showing 1 to 10 of 256 entries

First Previous 1 2 3 4 5 Next Last



Network operator measurements, 14 January 2016

Data sources: Google, Yahoo!, Akamai, Facebook, LinkedIn
 For measurement methodology details, see
<http://www.worldipv6launch.org/apps/ipv6week/measurement/timeline-nets.html#notes>

World IPv6 Launch Measurements

Key concepts

- Activity could not be slideware/vaporware
- To guarantee it wasn't, it needed to be measured, and those measurements needed to be public
- Participants agreed to be measured

Key concerns

- Measurers' data is very sensitive
- Does a single measurer have a broad enough view?

Solution

- Keep an individual measurers' data private
- Send multiple data sets to neutral third party washing out individual measurements and providing a somewhat broader perspective, with a trusted verification of sorts

V6I measurement limitations

- No pretenses to these being scientific measurements
 - Everyone is measuring IPv6 traffic, but each measurer measures something slightly different
 - Each measurer has a different footprint, and a different user demographic
 - And yet, folks agree that it gives a good rough estimate of what is going on with IPv6 deployment
- A single viewpoint on IPv6 traffic
 - Websites looking at everything coming in
 - Access providers view IPv6 traffic very differently and that story remains mostly untold

Could this be a template for unlocking other useful measurements?

- NOMA project: <http://www.techark.org/noma/>
- Operator driven perspective on what is happening in the Internet
 - Operators have the best view on data in their network
 - This data is often extremely sensitive
 - Is there a way to combine operators data in a way to alleviate sensitivities and tell the world something about what is going on in the Internet at large
 - It's all about collaboration
- Finding the right matrix of motivations here is the challenge
 - Looking for a cross-section of things that operators are willing to disclose, see some value in doing so if others do so as well, and tell us something useful about the Internet

Applicability?

- For researchers
 - Do the limitations in the nature of the measurements of an approach like this make this uninteresting to researchers?
 - Do the limitations in the kind of measurements available (driven by operator interest) hinder this?
- For participants
 - What are substantial enough incentives to produce measurements that don't exist? Or to process data in a way that is externally consumable?
- For third parties
 - Can the scope of data points be made broad enough?
 - Are the things that are being revealed interesting enough?