

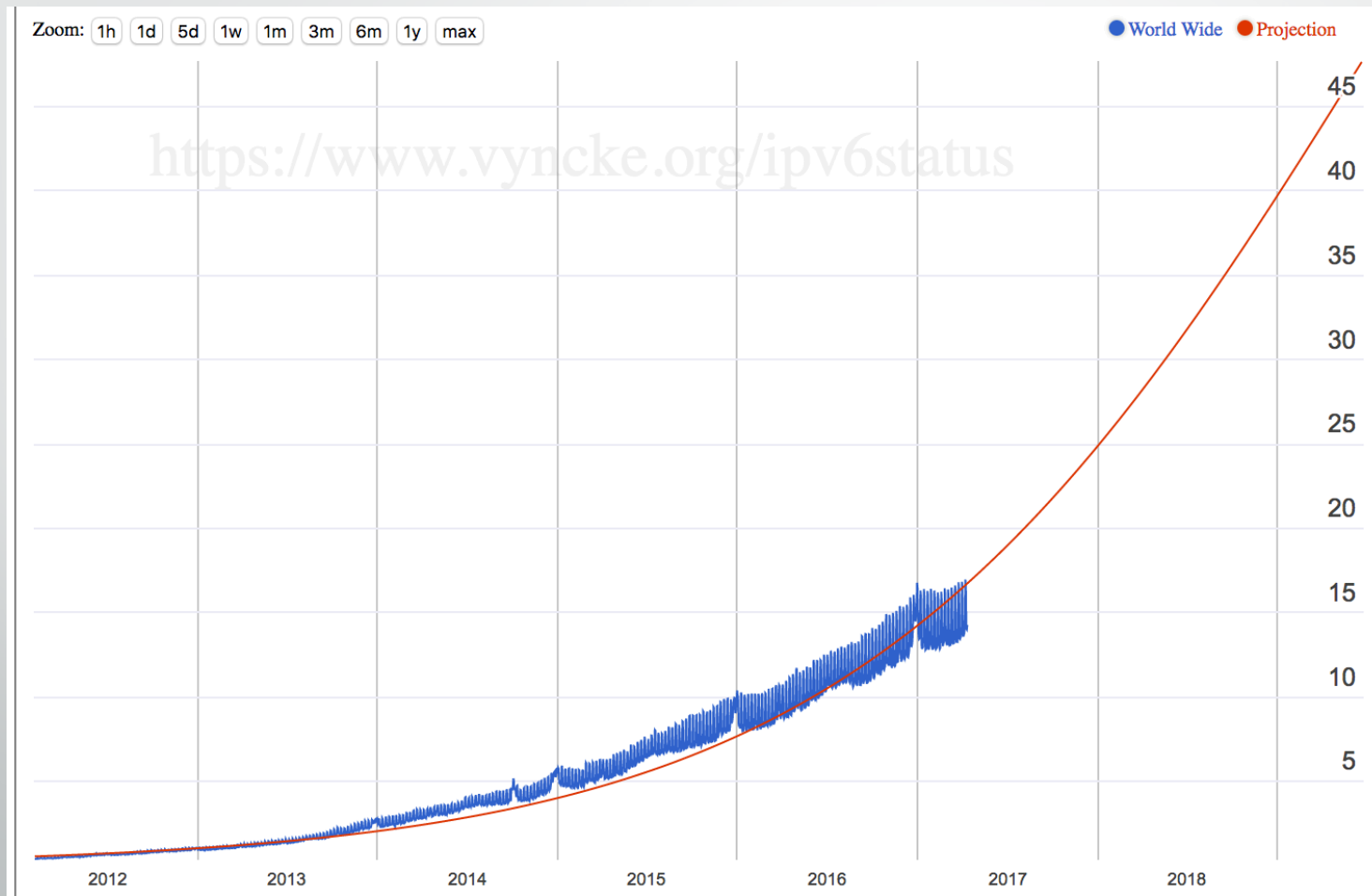
IPv6 Deployment WW & in .be

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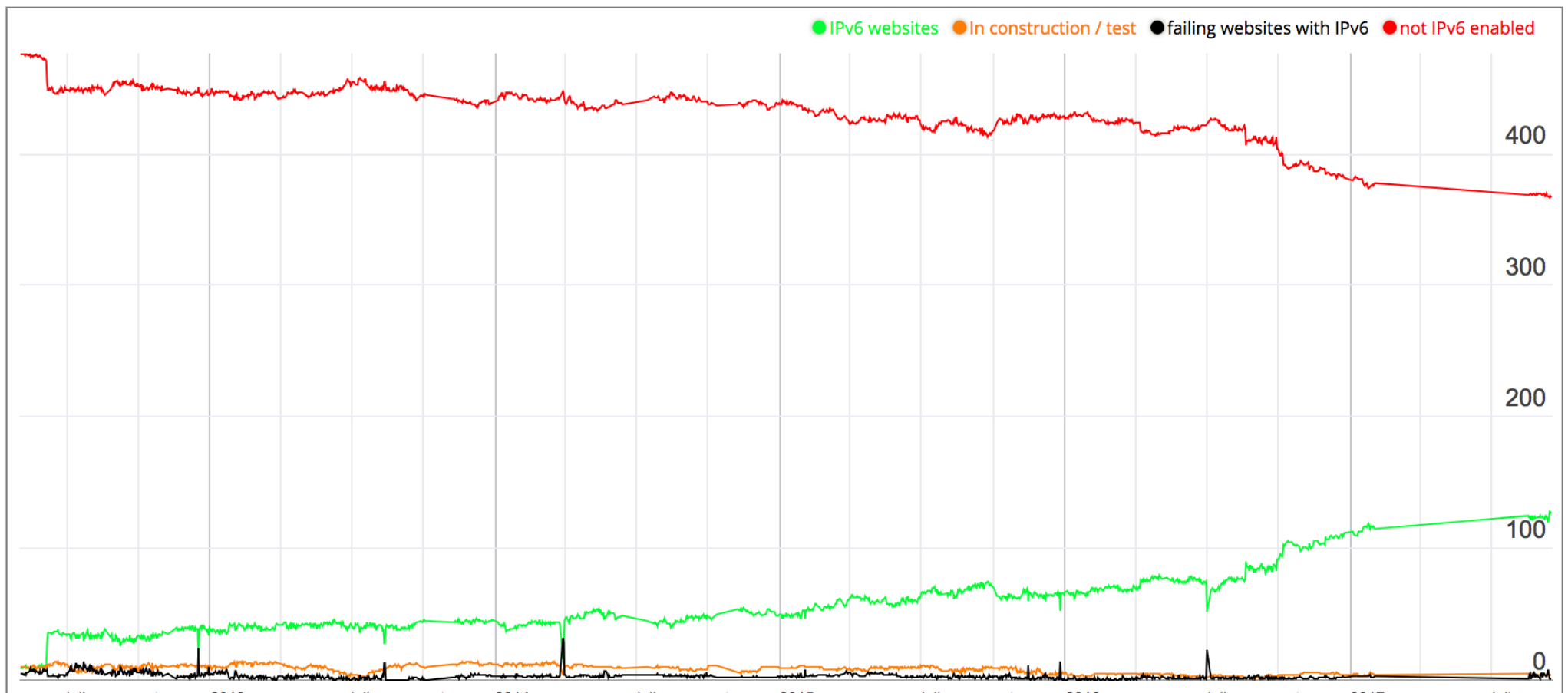
IPv6 in the World

























Source: <https://www.vyncke.org/ipv6status/project.php?metric=p&country=ww>

News about Belgium

Display content data



Name	Alexa (Nov 2016) country/global	Web
 Search Google <small>whois</small>	1/151	www.google.be 2a00:1450:4007:816::2003 2011-06-08
 twoo.com <small>whois</small>	2/1196	FAILED <i>CDN</i>
 Press Het Laatste Nieuws <small>whois</small>	3/2604	www.hln.be 2a02:26f0:2d:2a3::2286 2016-09-09 <i>CDN</i>
 Press Nieuwsblad <small>whois</small>	4/3771	FAILED
 Edu Katholieke Universiteit Leuven <small>whois</small>	5/4314	www.kuleuven.be 2a02:2c40:0:80::80:12 2011-06-07
 2dehands.be <small>whois</small>	6/4424	FAILED
 Press Vlaamse Radio Televisie <small>whois</small>	7/5293	FAILED
 2ememain.be <small>whois</small>	8/5462	FAILED
 ISP Telenet <small>whois</small>	9/5914	ipv6.telenet.be 2a02:1800:120:6002::3 2017-08-29
 Kapaza <small>whois</small>	10/6111	FAILED

 Press De Standaard <small>whois</small>	11/6136	FAILED
 Press Radio Télévision Belge Francophone <small>whois</small>	12/6932	www.rtb.be 2a04:4e42:1d::319 2010-07-30 <i>CDN</i>
 Bank bnpparibasfortis.be <small>whois</small>	13/8294	FAILED
 Edu ugent.be <small>whois</small>	14/8459	FAILED
 B2C Ebay <small>whois</small>	15/8840	FAILED
 B2C immoweb <small>whois</small>	16/9576	FAILED <i>CDN</i>
 Press Sporza <small>whois</small>	17/9692	FAILED
 Press Le Soir <small>whois</small>	18/9769	www.lesoir.be 2a02:26f0:2d:299::3c11 2015-06-26 <i>CDN</i>
 smartschool.be <small>whois</small>	19/10401	FAILED
 Press La Dernière Heure <small>whois</small>	20/10453	FAILED
 Bank ING <small>whois</small>	21/10663	FAILED <i>CDN</i>
 Press demorgen.be <small>whois</small>	22/10844	www.demorgen.be 2a02:26f0:2d:593::3c5d 2016-09-29 <i>CDN</i>

<https://www.vyncke.org/ipv6status/detailed.php?country=be>

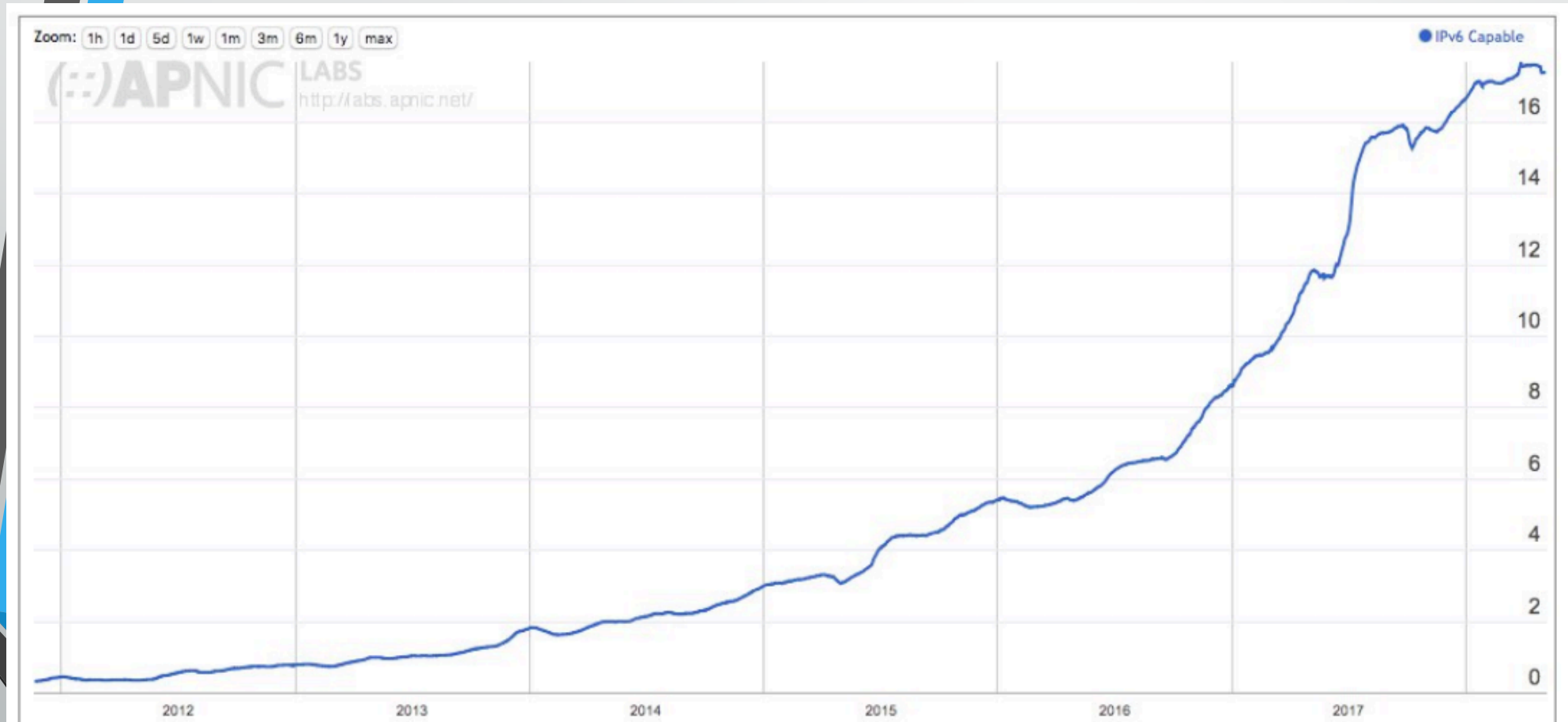


What Drives IPv6 Deployment?

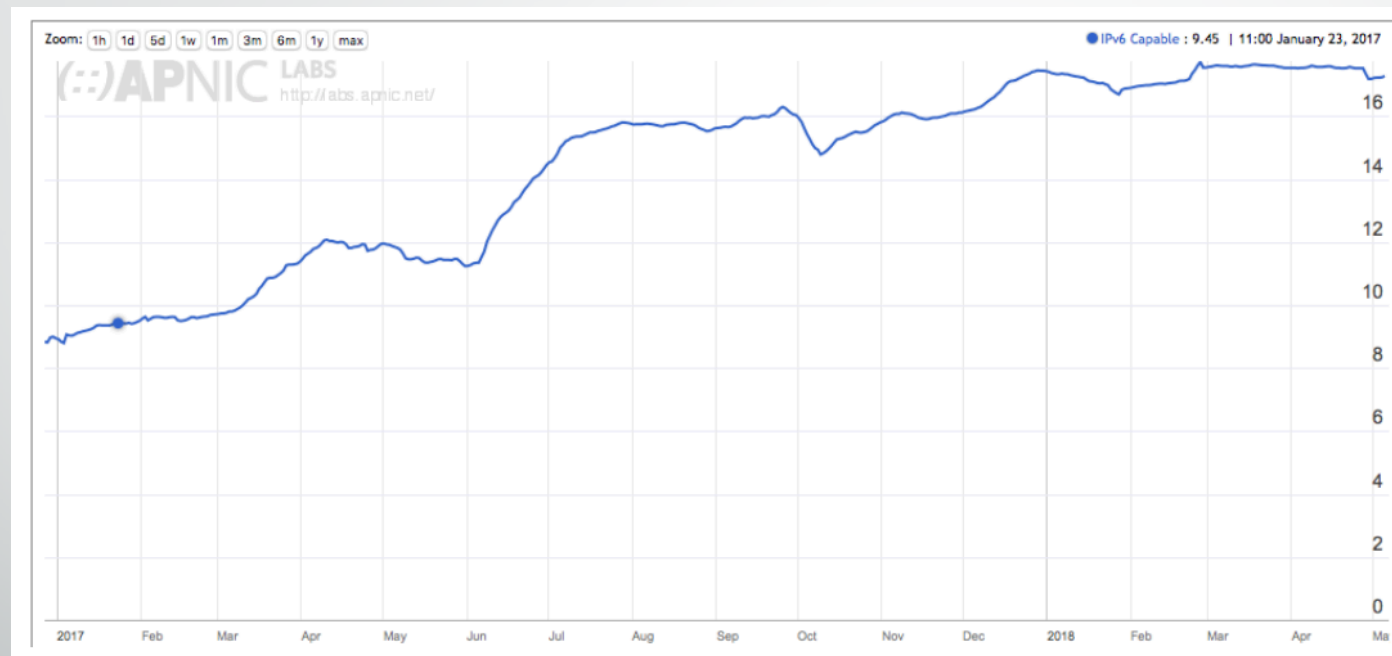
<https://blog.apnic.net/2018/05/21/what-drives-ipv6-deployment/>

Geoff Huston, APNIC

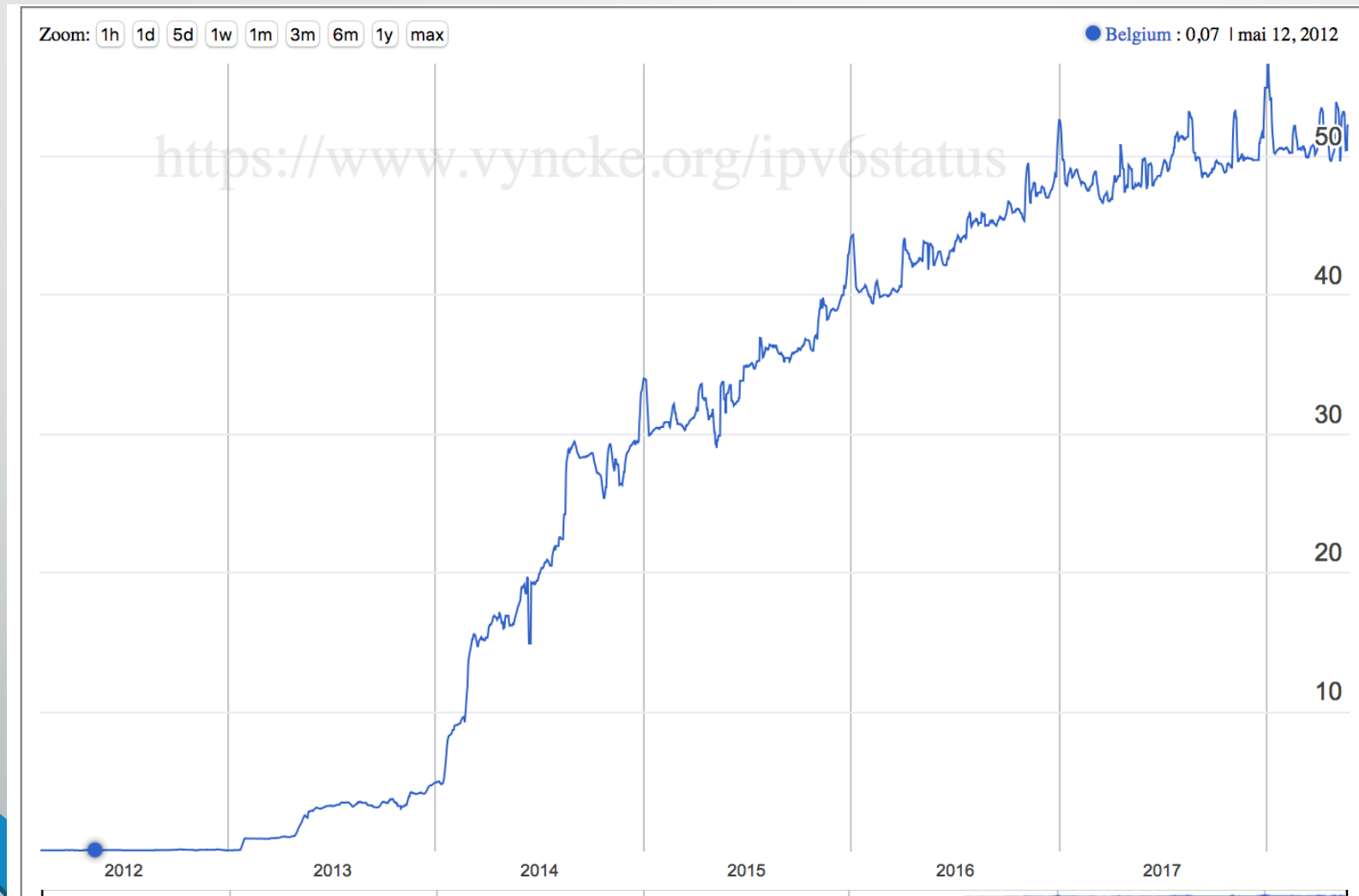
IPv6 had a quick start



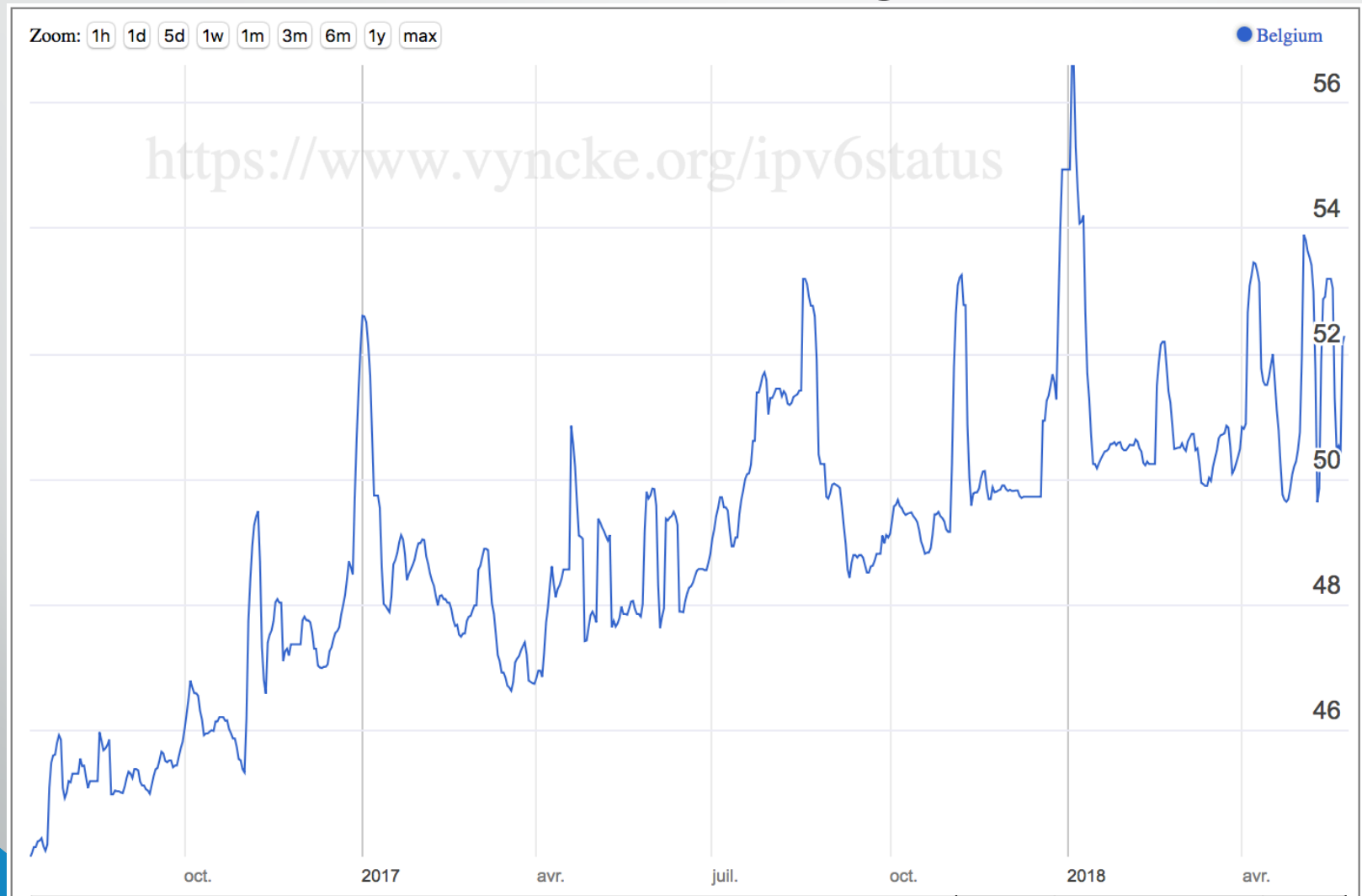
Then losing momentum ?



What about Belgium?



Also pausing



One ISP or all ISP ?

- Belgium is leading with above 58% but with **all major residential** fixed ISP
 - But only 11 millions residents... So only 1% of the IPv6 users world wide
- India has a single ISP Reliance JIO (mobile and largest) with 92% IPv6 adoption rate
 - Bringing 236 millions IPv6 users...About 40% of the IPv6 users world wide
- UK is mainly BskyB with 93% of their subscribers being IPv6

End Point Dependencies ?

- Mobile is mainly either iOS or Android => once manufacturers agree vast amount of subscribers have IPv6
 - Even some doing IPv6-only (Reliance JIO, T-mobile, ...) IPv6 is then preferred and measured
- Fixed-line is more complex due to CPE... Not always an ISP managed one
 - Comcast (cable US) only 73% of subscribers have IPv6
- In Belgium:
 - cable ISP with DOCSIS 3.0 was a combo of IPv6 and faster throughput
 - Subscribers wanted to move to faster throughput and got IPv6 as a side effect
 - xDSL there was no such combo
 - Little to no incentive (subscriber & provider) to change CPE

Back on This CPE...



Dated 2012...

Nicolas Simar delivered it...

In a cellar in Alleur/Ans/Liège

To one IPv6 FUT



=> importance Of CPE !

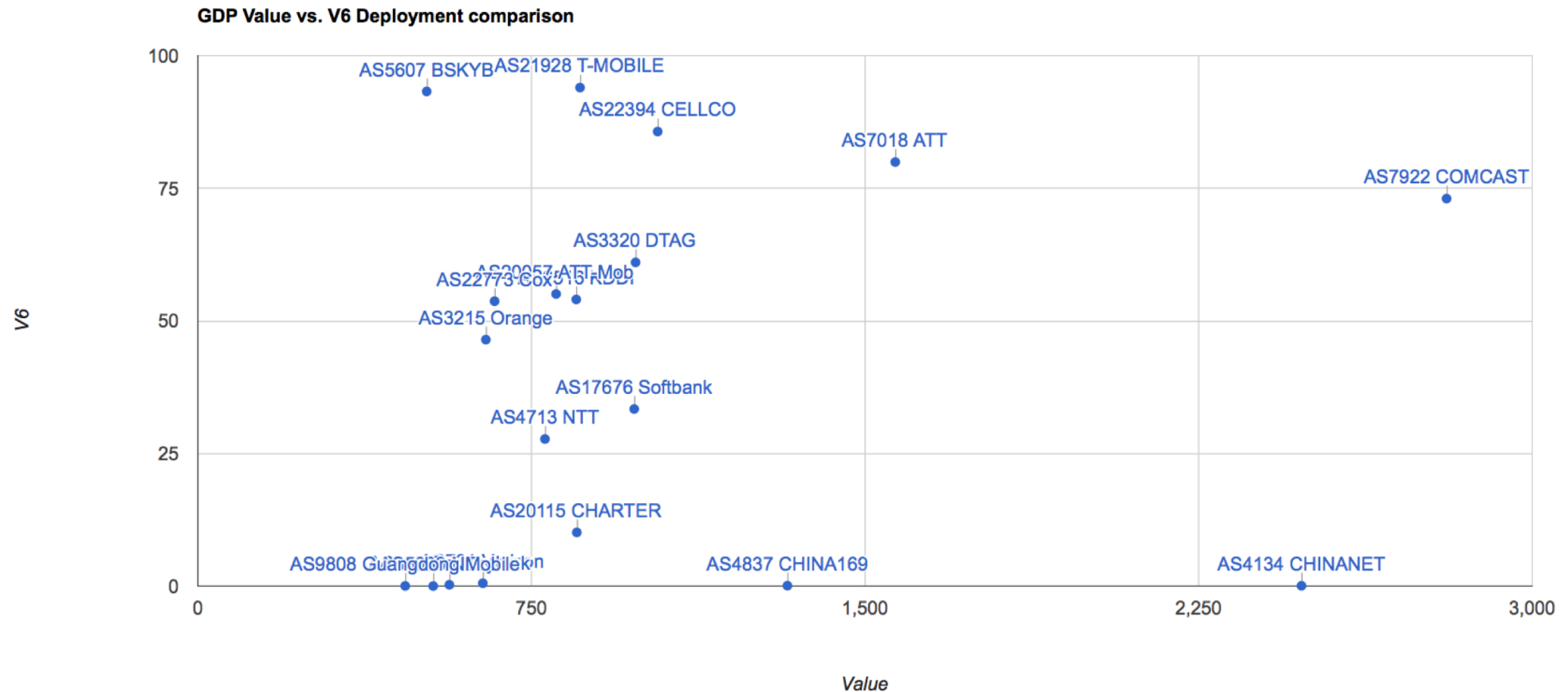
Do Only Rich ISP Deploy IPv6 ?

Rank	AS Name	CC	Users (est)	Value (est) = GDP / resident * subscribers	IPv6 Users	IPv6%
1	Comcast Cable	US	48,845,229	2,783,982,672,084	35,701,856	73%
2	ChinaNet	CN	310,853,595	2,460,095,350,830	244,673	0%
3	ATT Services	US	27,190,530	1,549,751,447,880	21,621,772	80%
4	China Unicom	CN	161,782,709	1,280,348,359,026	109,825	0%
5	Verizon Wireless	US	18,499,350	1,054,388,952,600	15,788,328	85%
6	Deutsche Telekom	DE	23,392,392	988,562,485,920	14,118,853	60%
7	Softbank BB	JP	25,292,851	984,220,710,963	8,259,099	33%
8	T-Mobile USA	US	15,402,964	877,907,336,144	14,513,144	94%
9	KDDI	JP	22,146,612	861,791,112,756	11,725,651	53%
10	Charter Comms	US	14,901,389	849,319,567,444	1,528,640	10%

NO !

NO !

No Correlation About Value and % of IPv6



<https://blog.apnic.net/2018/05/21/what-drives-ipv6-deployment/>

Does Subscribers Growth Require IPv6?

Rank	AS Name	CC	Users (5/18)	Users (1/17)	Growth	V6%	V6 Growth
1	SK Telecom	KR	6,846,142	1,521,612	350%	81%	55%
2	Advance Wireless	TH	4,657,758	1,047,844	345%	42%	42%
3	ZAIN UG	UG	3,776,883	1,021,996	270%	0%	0%
4	Idea Cellular	IN	38,917,738	11,901,462	227%	39%	33%
5	NTT DOCOMO	JP	5,840,898	1,826,417	220%	8%	8%
6	Reliance Jio	IN	252,882,243	79,115,818	220%	92%	19%
7	China Mobile	CN	4,632,749	1,479,558	213%	0%	0%
8	Realmove	TH	3,033,271	1,035,635	193%	0%	0%
9	China Mobile Zhejiang	CN	21,567,119	7,379,958	192%	0%	0%
10	Vodafone Essar	IN	41,404,353	14,332,740	189%	40%	17%
11	T-Mobile USA	US	15,522,746	5,725,701	171%	94%	17%

NO!

Does Emulation Help ?

Country	IPv6
India	58%
Belgium	58%
USA	44%
Germany	39%
Greece	38%
Japan	27%
Brazil	26%

List of countries having 3
of the 6 largest ISP have an
IPv6 deployment of IPv6

YES !
Friendly competition
HELPS

Back to Reality

- In Europe we need more mobile ISP doing IPv6
- Non-managed CPE will be a hurdle
- Content still missing
 - Despite google, facebook, netflix, ...
 - We need more news/media (Nieuwsblad, VRT, DH, ...)
 - More B2C 2dehands/2ememain, Kapaza, BNP, immoweb, ...

YES !
Friendly competition
HELPS