



Sky IPv6 Launch

Ian Dickinson

2nd UK IPv6 Council Meeting – 23rd September 2015

Star Wars: The Empire Strikes Back

skyMOVIES

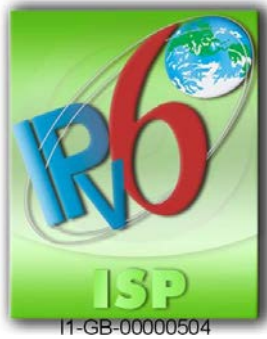
We started here....

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But we can improve the recipe...

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PIEv6™



Many tasks to complete

- Peering & Transit enablement
- Lab Proof of Concept
- National BNG enablement
- CDN enablement
- Scaling upgrades
- OSS
- Telemetry
- Abuse/Compliance
- Support processes



Many tasks completed

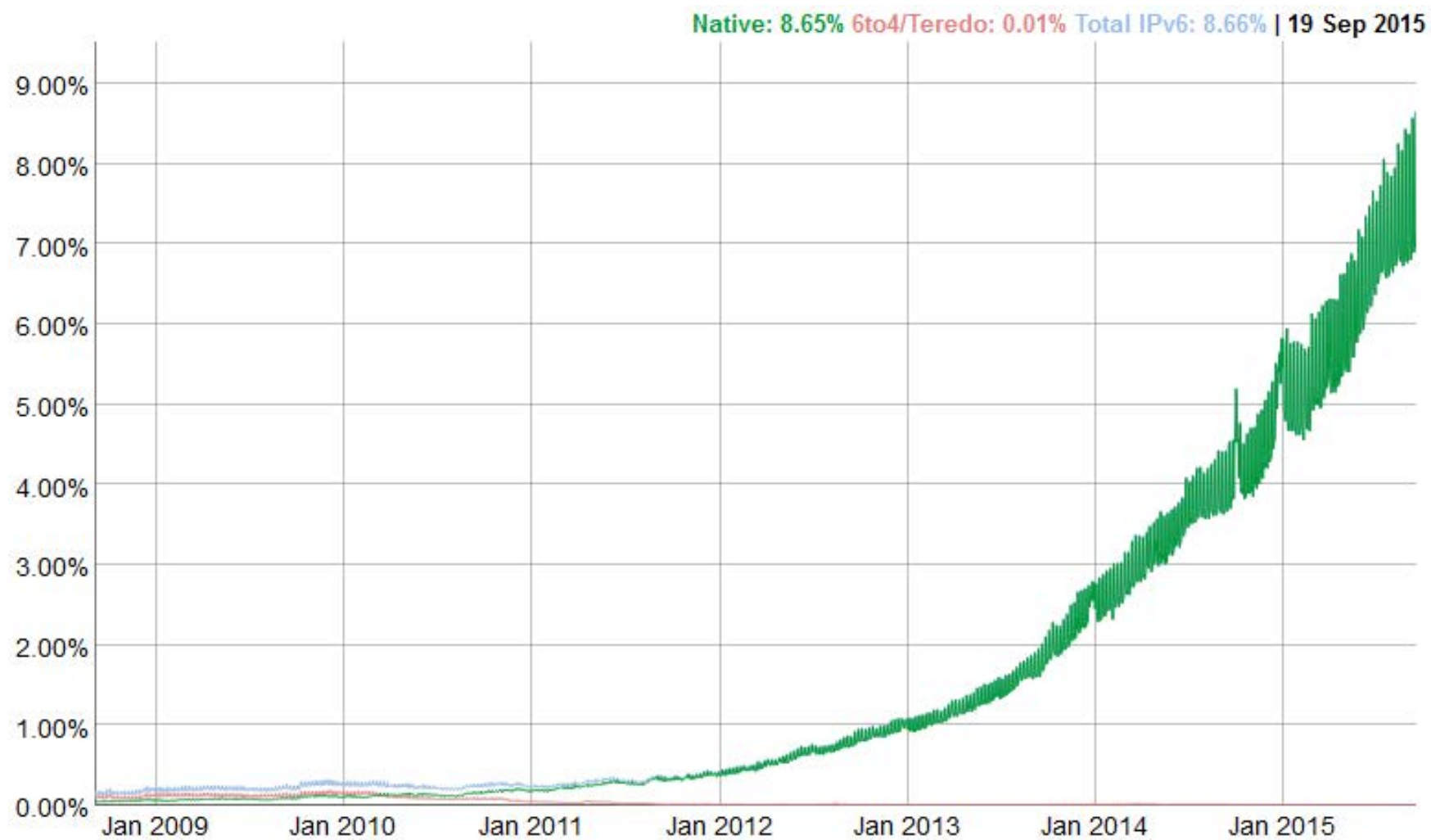
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- ✓ Peering & Transit enablement
- ✓ Lab Proof of Concept
- ✓ National BNG enablement
- ✓ CDN enablement
- ✓ Scaling upgrades
- ✓ OSS
- ✓ Telemetry
- ✓ Abuse/Compliance
- ✓ Support processes



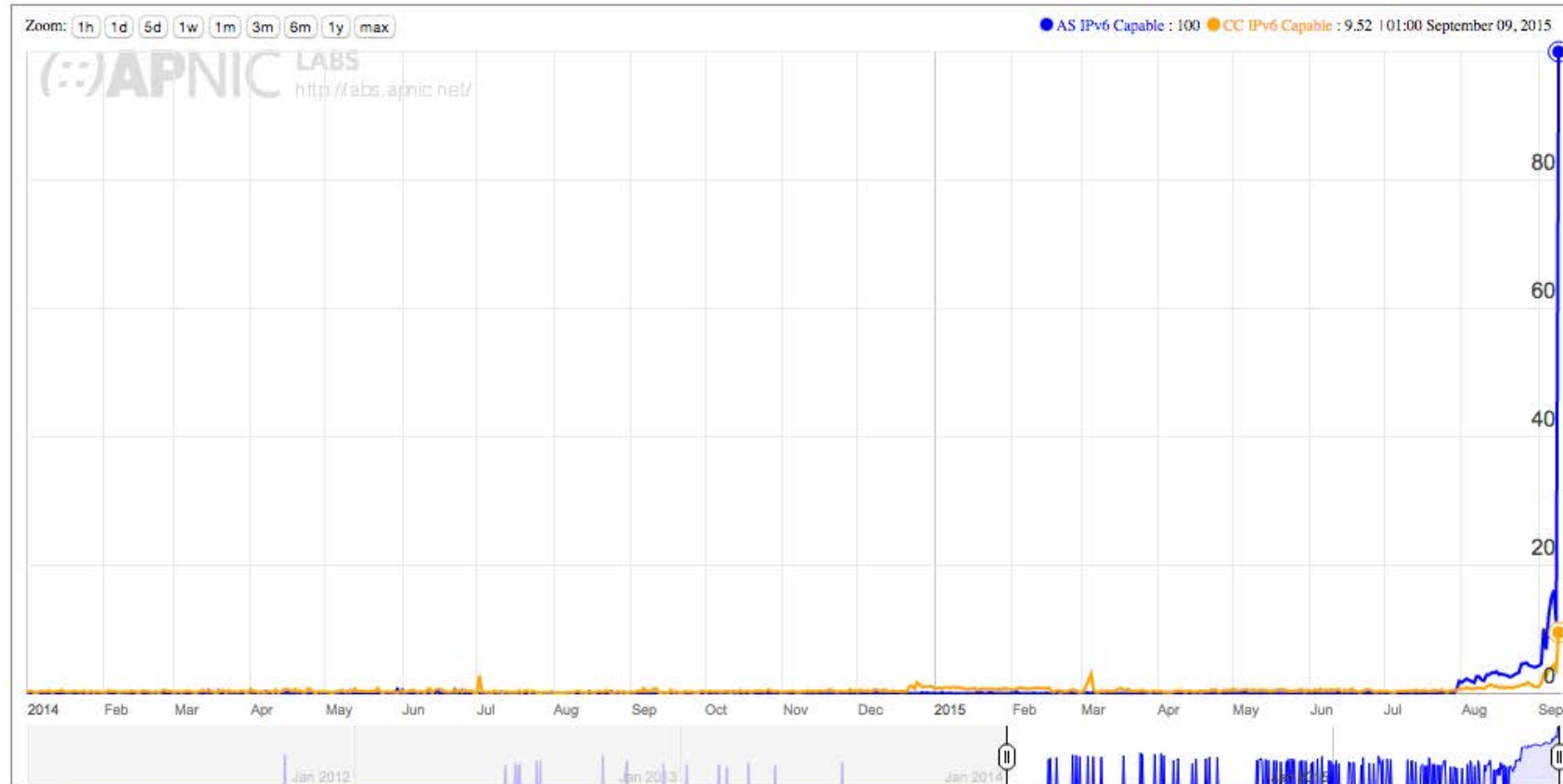
Google global IPv6 adoption

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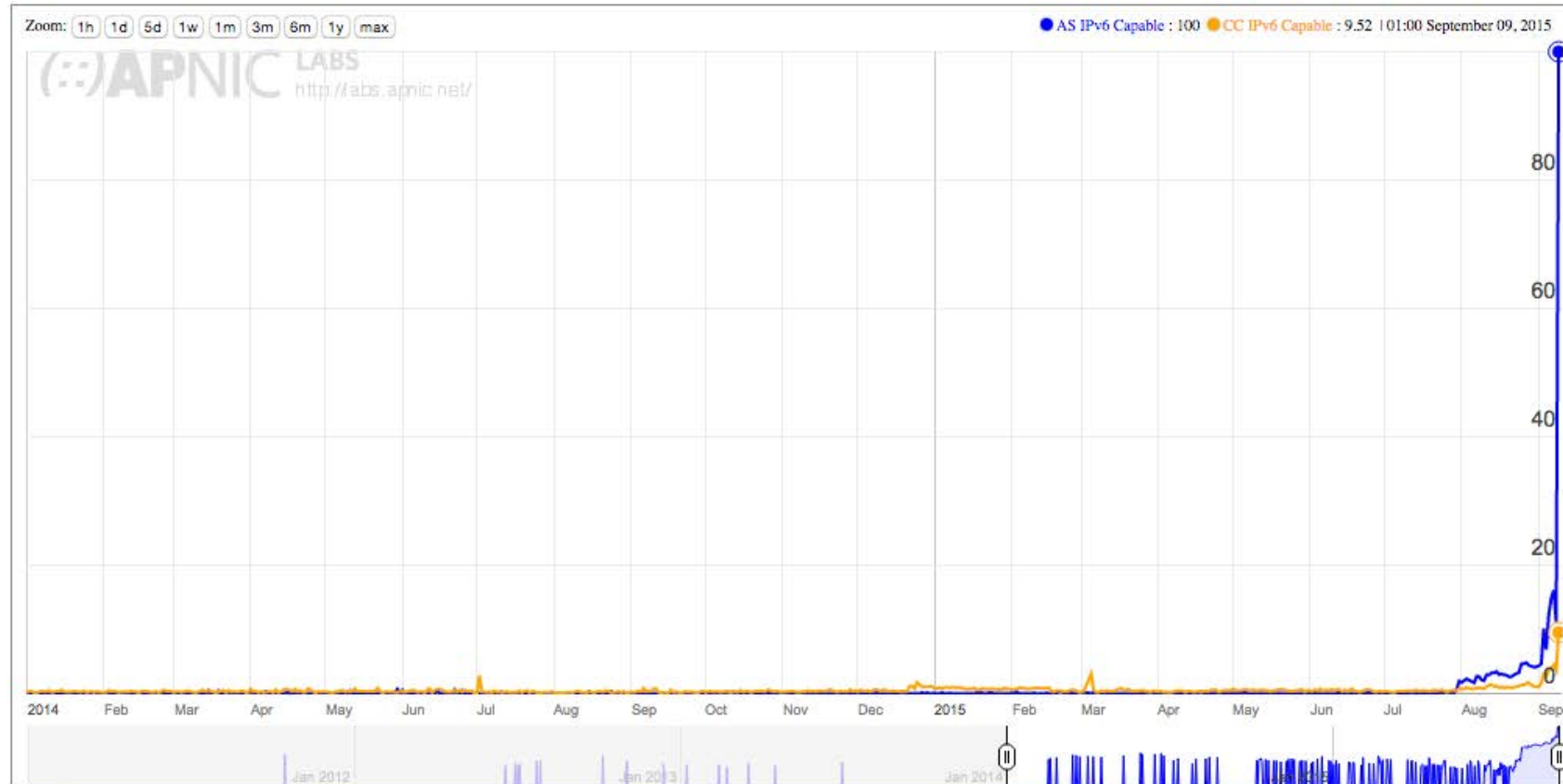
And we're finished!

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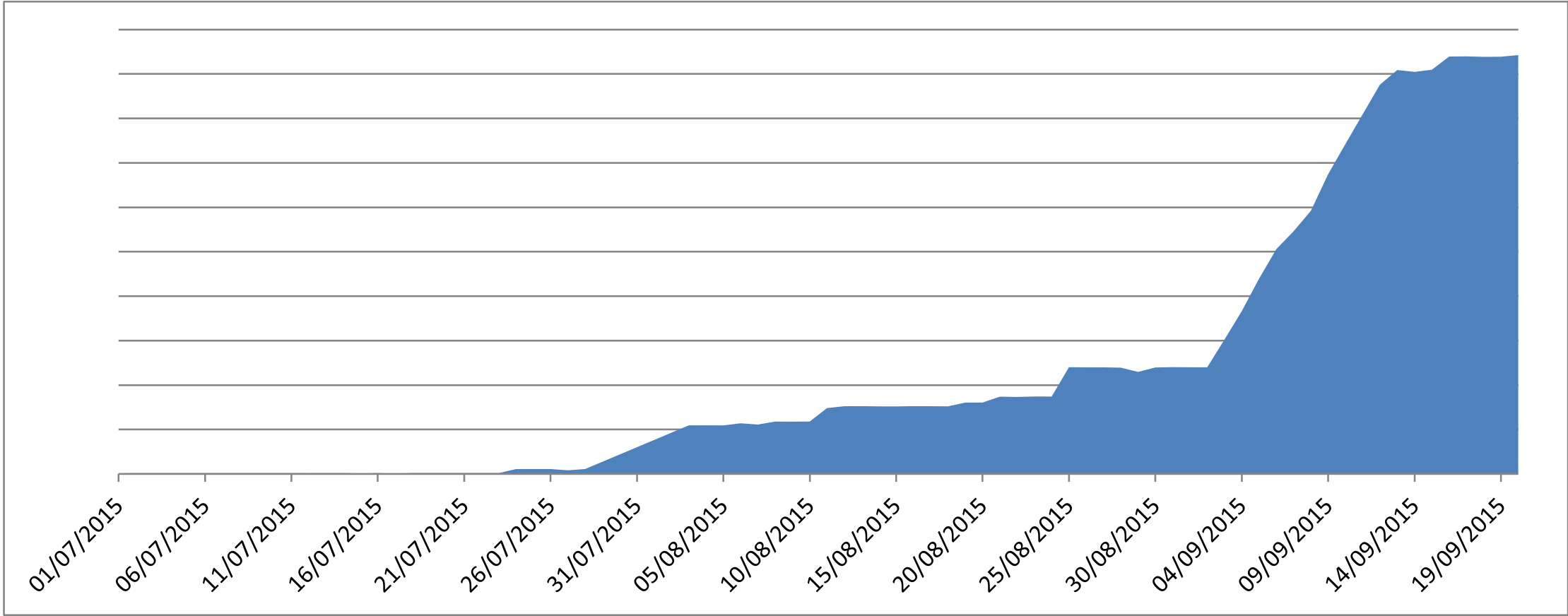


~~And we're finished!~~ Not really! APNIC data gathering SNAFU

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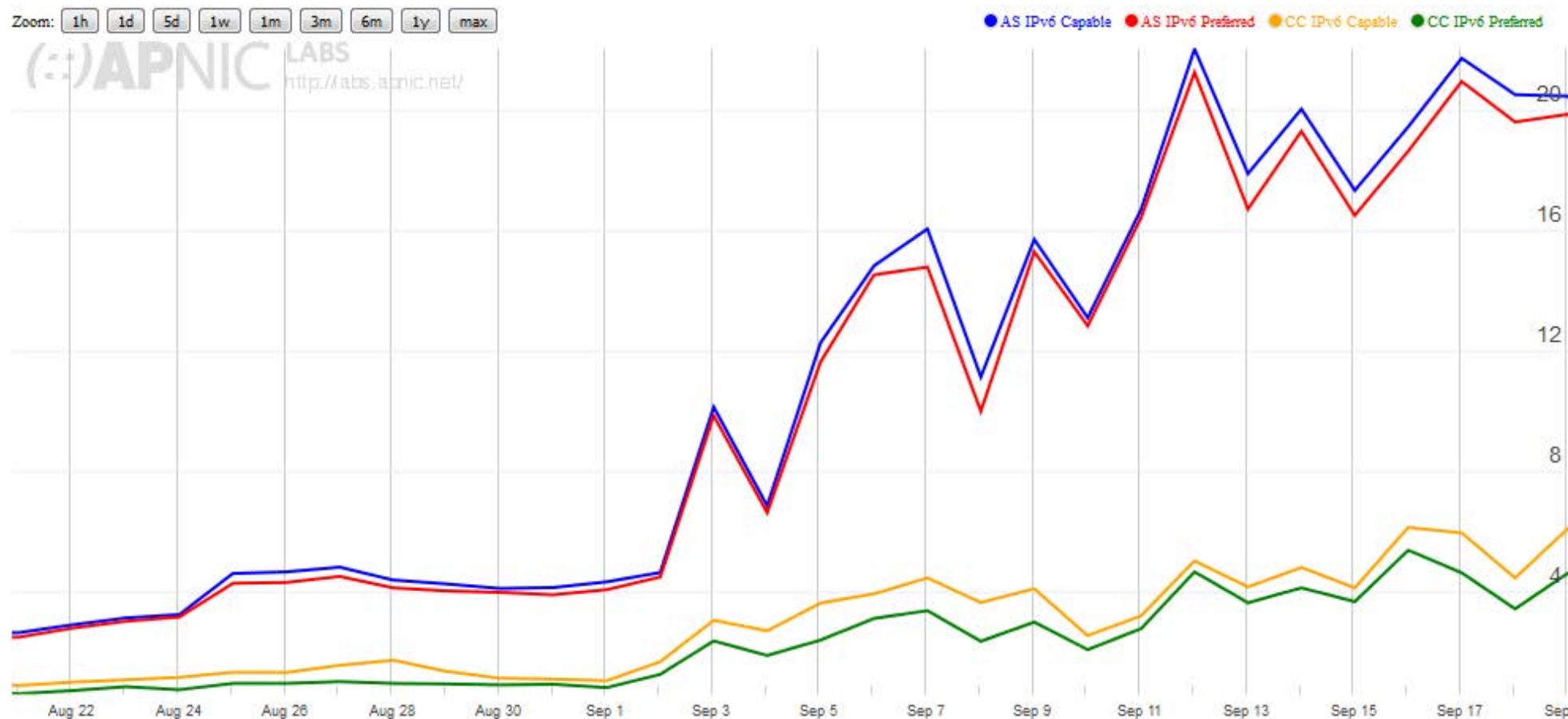


Sky IPv6 Subscriber Lines



Sky and UK IPv6 as seen by APNIC

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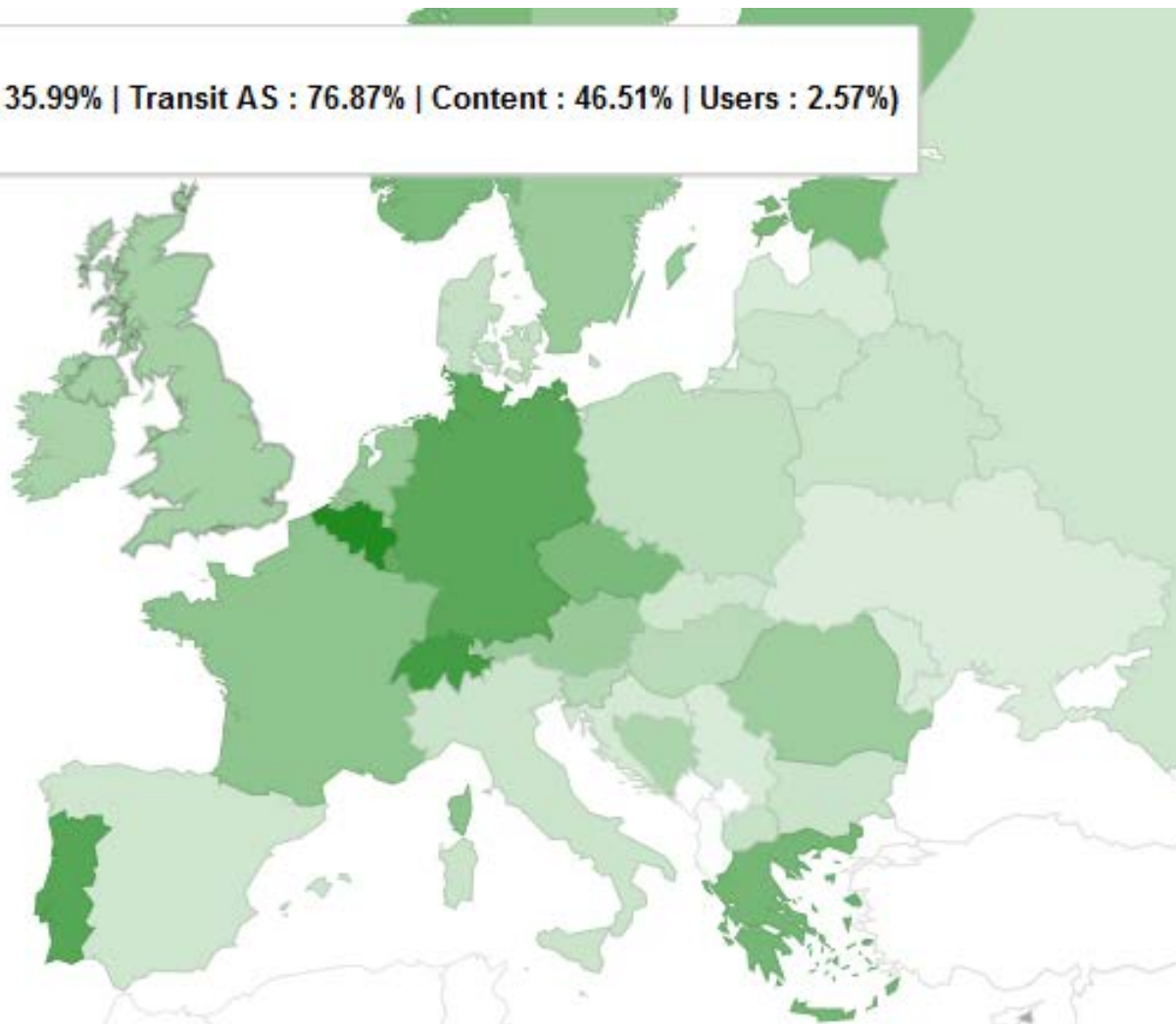
IPv6 Metrics Map from Cisco 6lab

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United Kingdom

IPv6 Deployment: 27.42% (Prefixes : 35.99% | Transit AS : 76.87% | Content : 46.51% | Users : 2.57%)

Relative Index: 4 out of 10



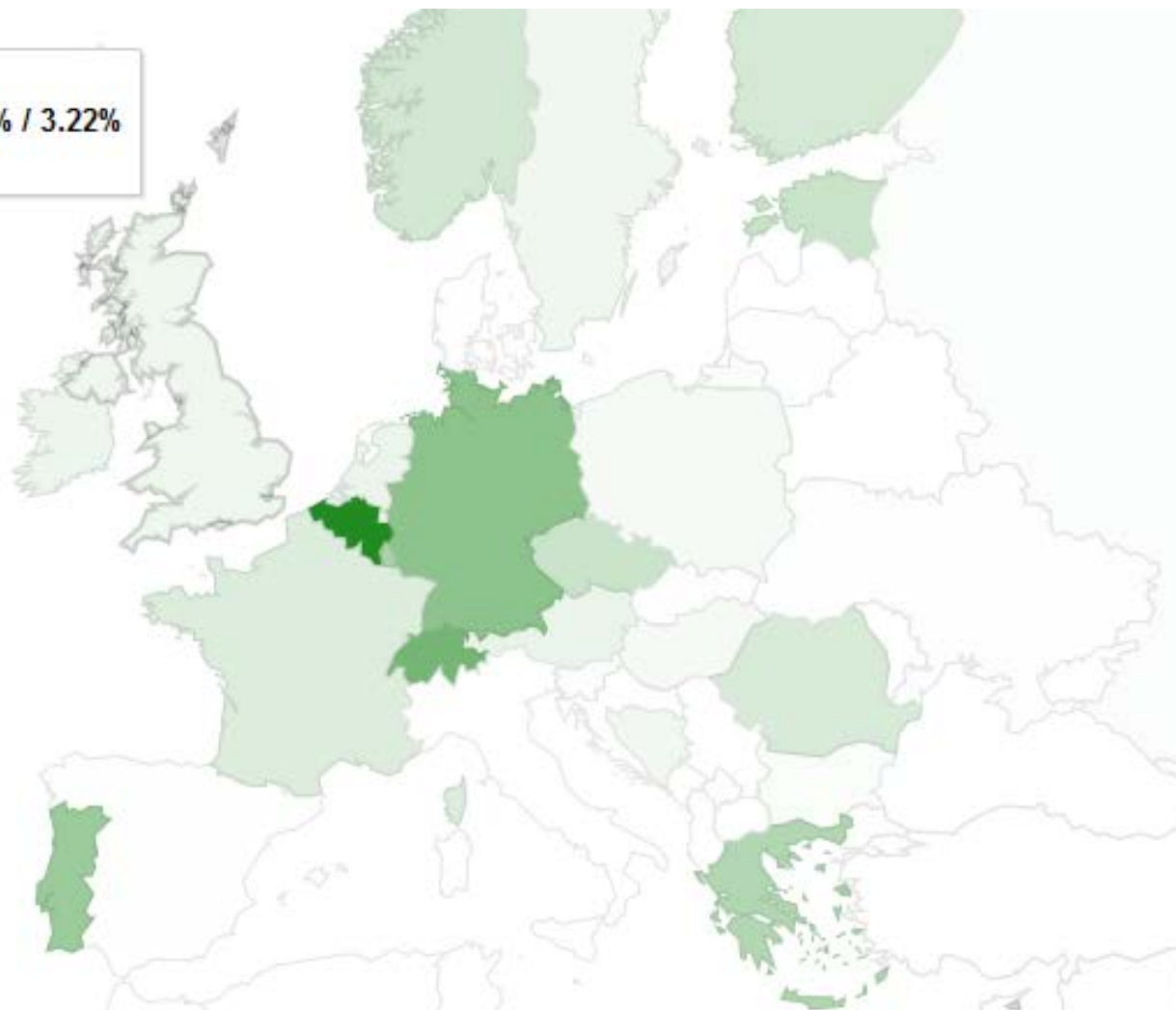
IPv6 Users Map from Cisco 6lab

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United Kingdom

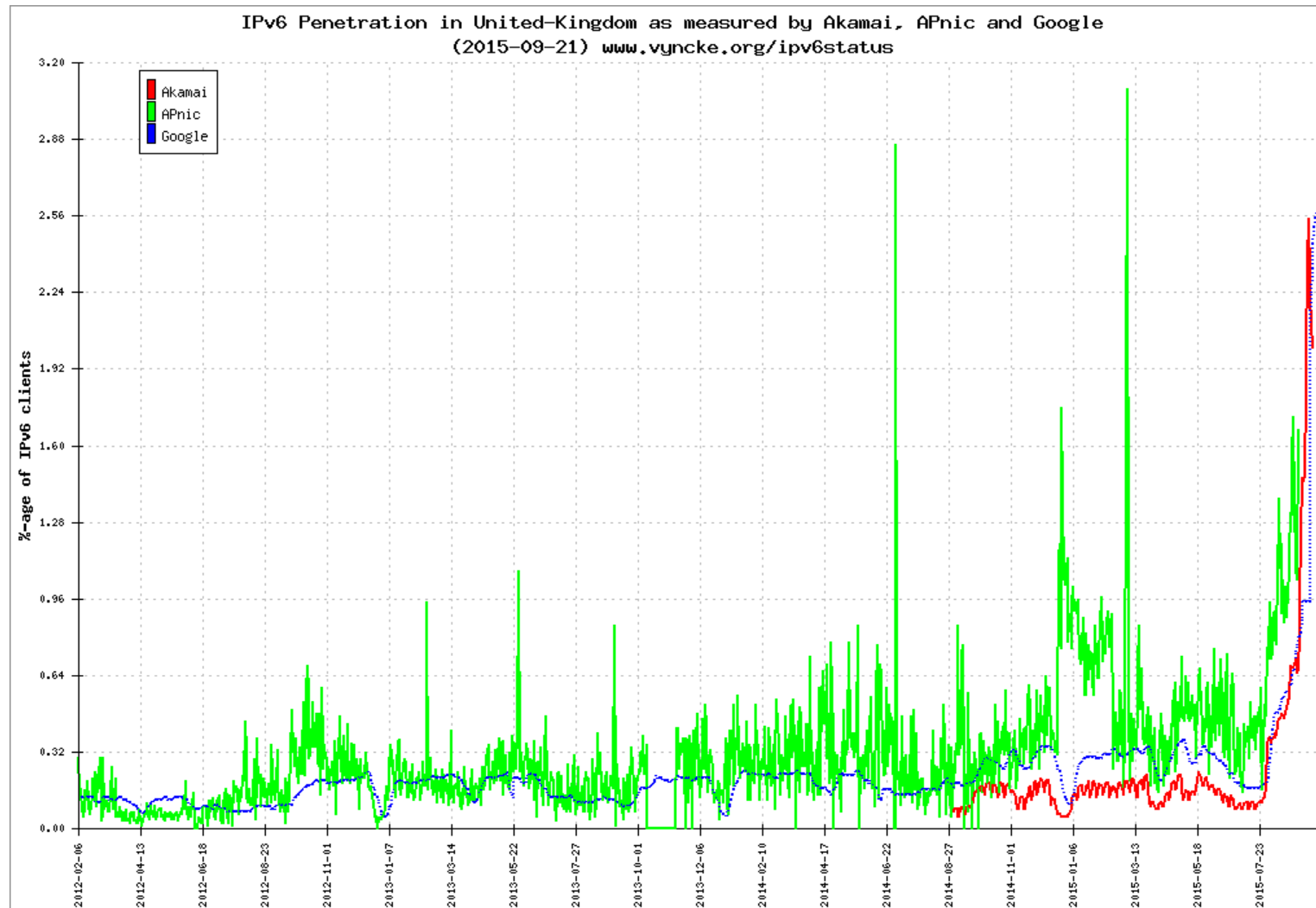
Google Search / APNIC data: 2.57% / 3.22%

Estimation: 1496 K IPv6 users



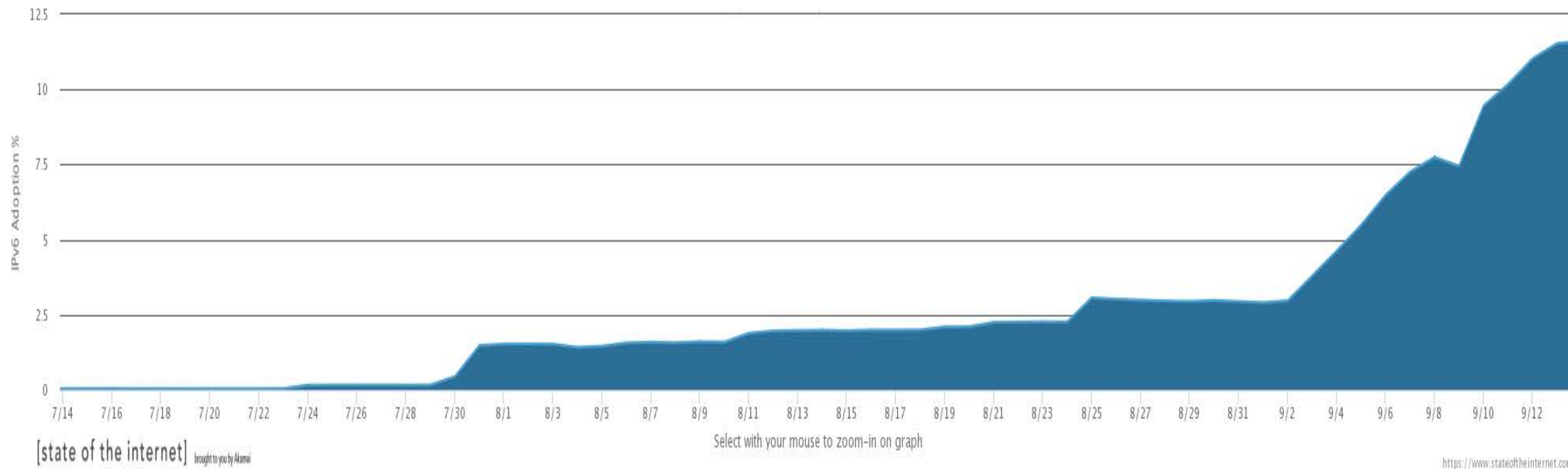
Multiple UK IPv6 measurements as seen by Eric Vyncke

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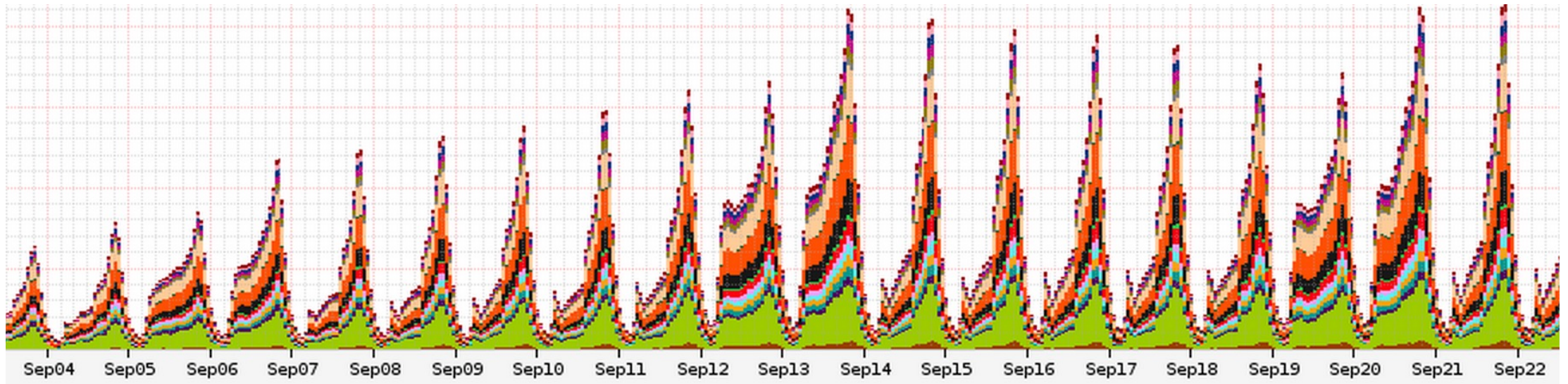
Sky IPv6 as seen by Akamai

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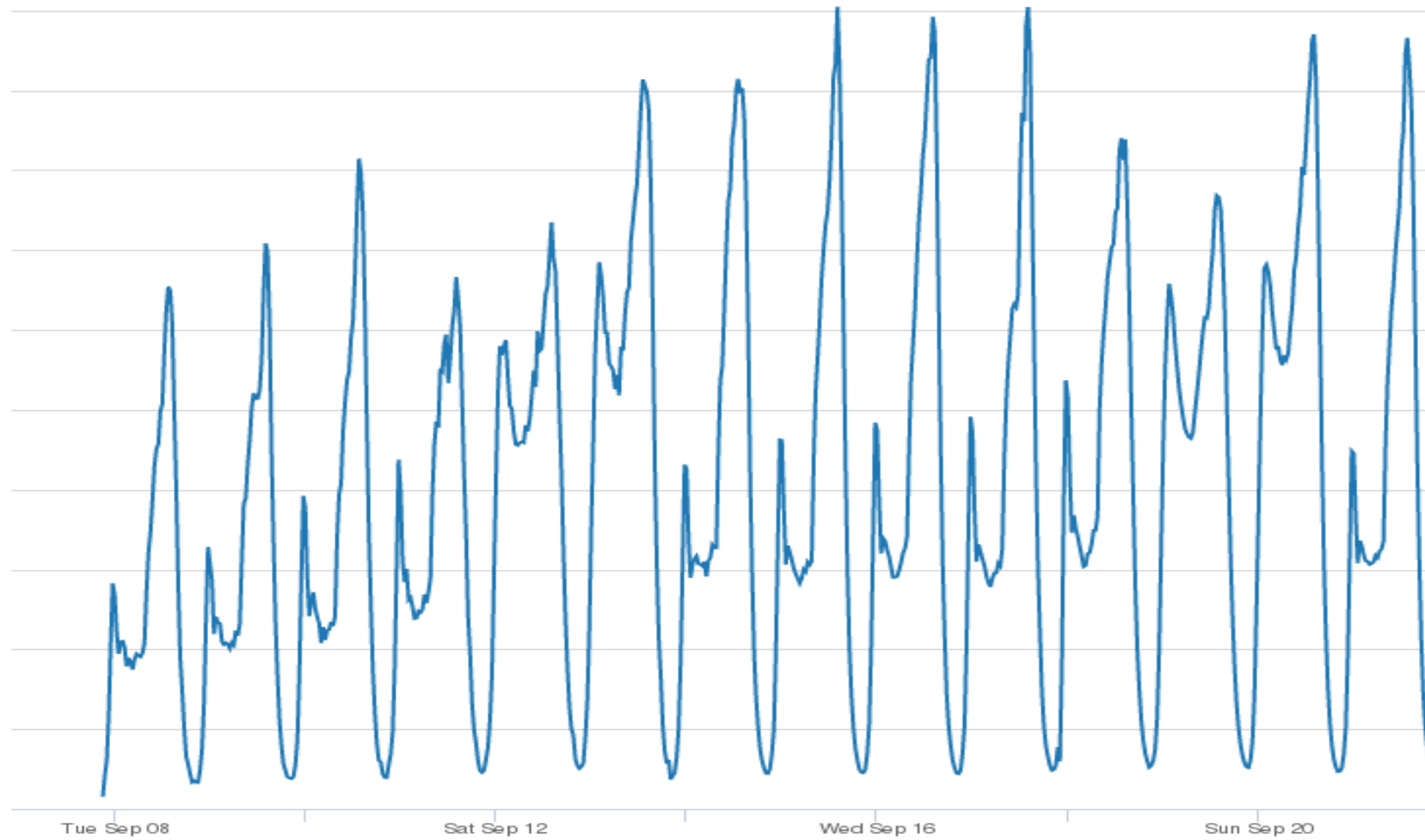
Sky IPv6 as seen by Netflix

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Sky IPv6 as seen by Facebook

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APNIC view of top IPv6 ASNs by estimated population

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Rank	ASN	AS Name	CC	Users (est.)	Value	% of country	% of Internet	V6 Users ▼	% of AS	% of country	%of internet	Sample
6	AS7922	COMCAST-7922 - Comcast Cable Communications, Inc.	US	34384103	1858357614841	12.28	1.1123	19191710	55.82	27.39	12.55	5348
17	AS7018	ATT-INTERNET4 - ATT Services, Inc.	US	19874442	1074153966774	7.1	0.6429	14108507	70.99	20.14	9.22	3091
27	AS15169	GOOGLE - Google Inc.	US	14393943	777949437321	5.14	0.4656	11632800	80.82	16.6	7.61	2239
19	AS2516	KDDI KDDI CORPORATION	JP	18723860	680968064340	17.17	0.6057	9762195	52.14	56.82	6.38	3064
15	AS3320	DTAG Deutsche Telekom AG	DE	20891082	997465601172	30.04	0.6758	8241346	39.45	49.54	5.39	3844
67	AS22394	CELLCO - Cellco Partnership DBA Verizon Wireless	US	7360904	397834778488	2.63	0.2381	6962965	94.59	9.94	4.55	1145
77	AS21928	T-MOBILE-AS21928 - T-Mobile USA, Inc.	US	6769460	365869004620	2.42	0.219	5396924	79.72	7.7	3.53	1053
10	AS28573	NET Servios de Comunicacao S.A.	BR	29314371	330285018057	25.97	0.9483	4265770	14.55	50.81	2.79	16256
16	AS18881	Global Village Telecom	BR	20048906	225891023902	17.76	0.6486	3662222	18.27	43.62	2.39	11118
69	AS31334	KABELDEUTSCHLAND-AS Kabel Deutschland Vertrieb und Service GmbH	DE	7306200	348841825200	10.5	0.2364	3560726	48.74	21.4	2.33	1344
1	AS4134	CHINANET-BACKBONE No.31,Jin-rong Street	CN	314383985	2364481951185	46.11	10.1704	3197317	1.02	40.28	2.09	49311
38	AS12322	PROXAD Free SAS	FR	11332185	497403596205	21.11	0.3666	3143414	27.74	88.79	2.06	19908
138	AS3303	SWISSCOM Swisscom (Switzerland) Ltd	CH	4047736	333610353384	56.14	0.1309	2537634	62.69	96.04	1.66	3756
41	AS6147	Telefonica del Peru S.A.A.	PE	10541570	67972043360	80.34	0.341	2481321	23.54	99.97	1.62	36928
37	AS5607	BSKYB-BROADBAND-AS Sky UK Limited	GB	11372298	516268212306	19.54	0.3679	2116893	18.61	71.96	1.38	3883
30	AS17676	GIGAINFRA Softbank BB Corp.	JP	13286974	483233957406	12.18	0.4298	2103989	15.83	12.25	1.38	2174
28	AS4788	TMNET-AS-AP TM Net, Internet Service Provider	MY	14103525	151556479650	69.19	0.4563	2067144	14.66	98.73	1.35	44117
149	AS2527	SO-NET So-net Entertainment Corporation	JP	3625609	131859773721	3.32	0.1173	1918828	52.92	11.17	1.25	593



worldipv6launch.org view of top IPv6 ASNs

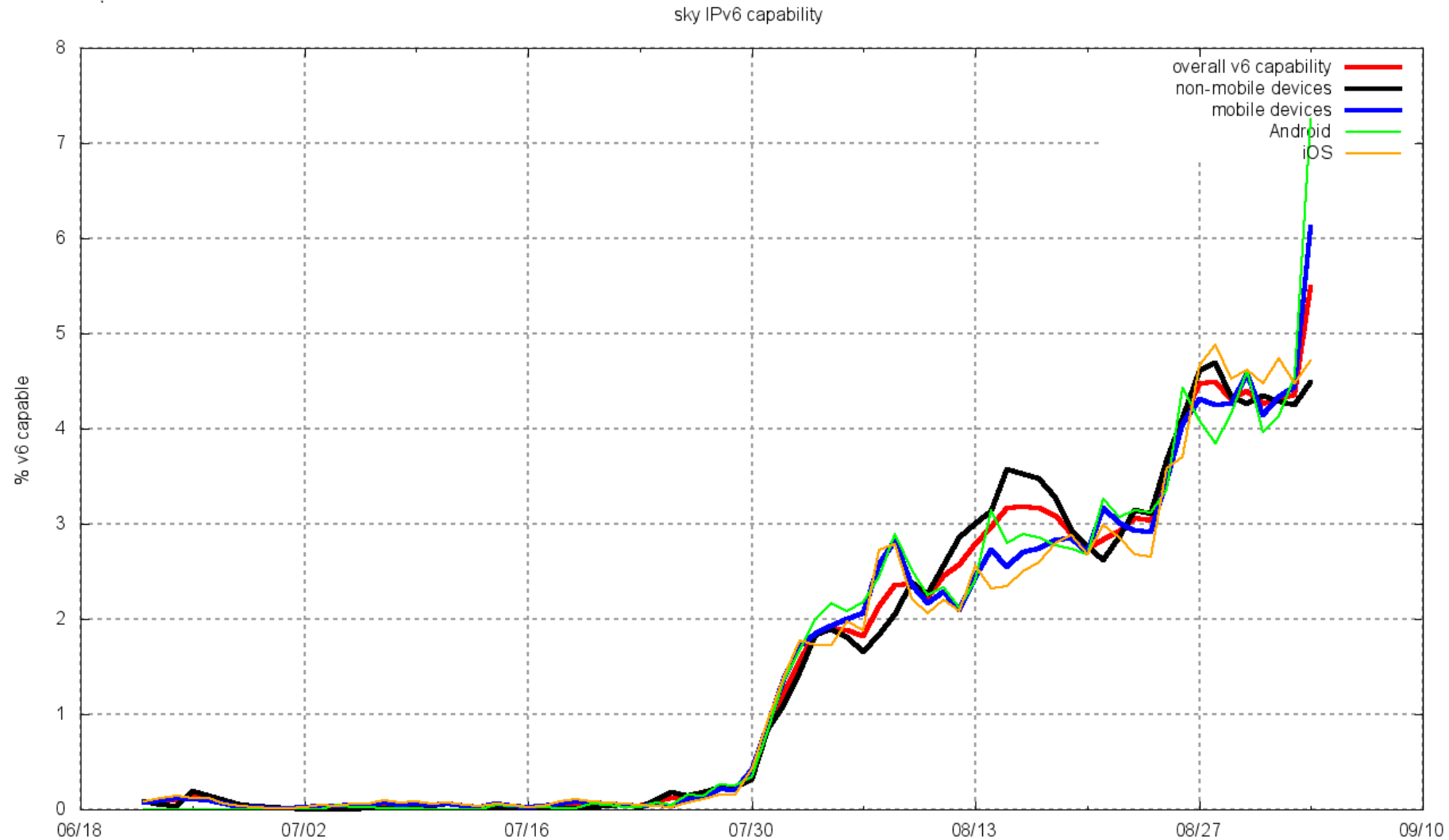
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Show 25 ▾ entries		Search: 5607	
Rank ▲	Participating Network ▾	ASN(s) ▾	IPv6 deployment ▾
21	British Sky Broadcasting	5607	9.86%
Showing 1 to 1 of 1 entries (filtered from 281 total entries)			
First Previous 1 Next Last			



Sky IPv6 by device type as seen by APNIC

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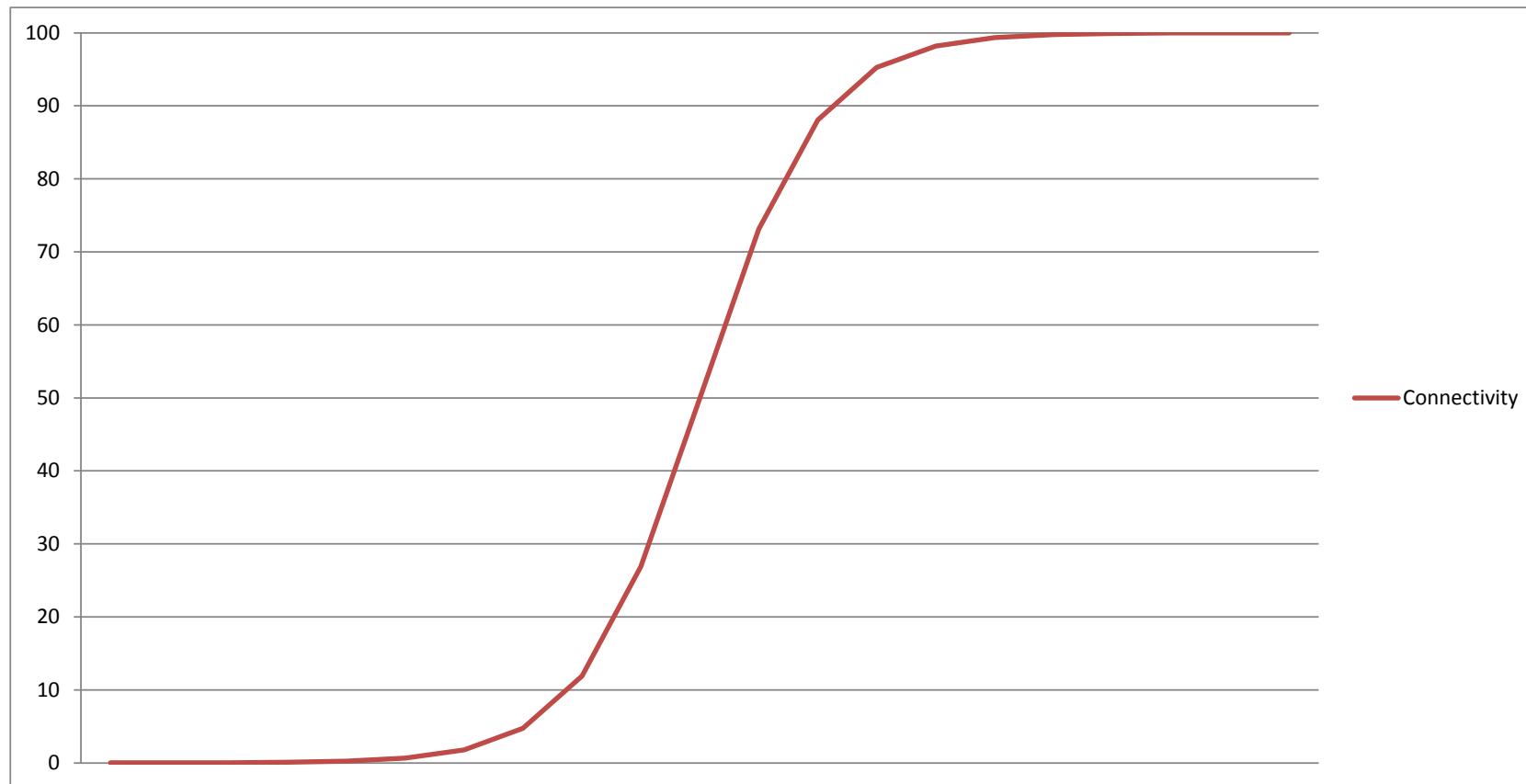
Still more to be eaten....

20



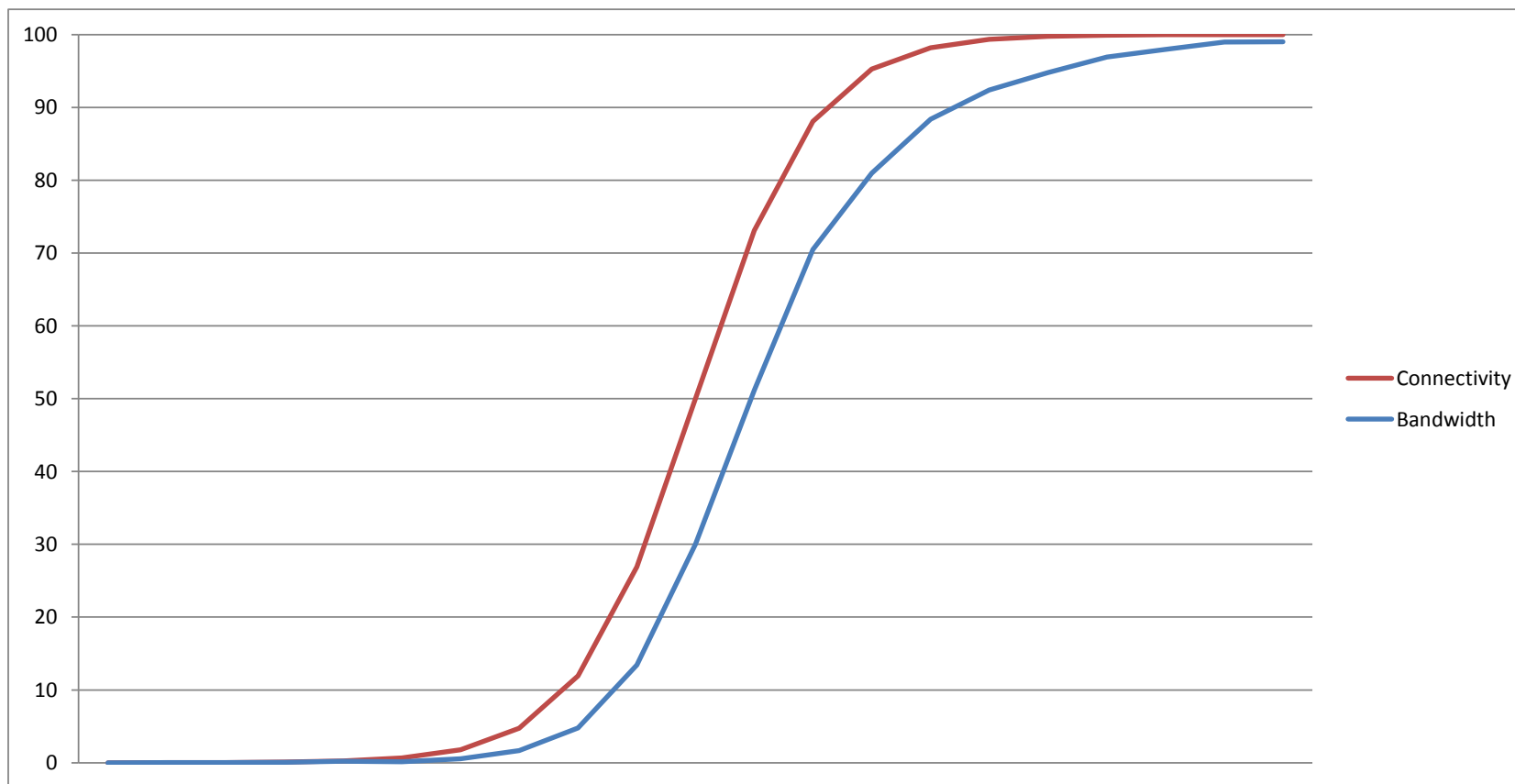
Transition Rate

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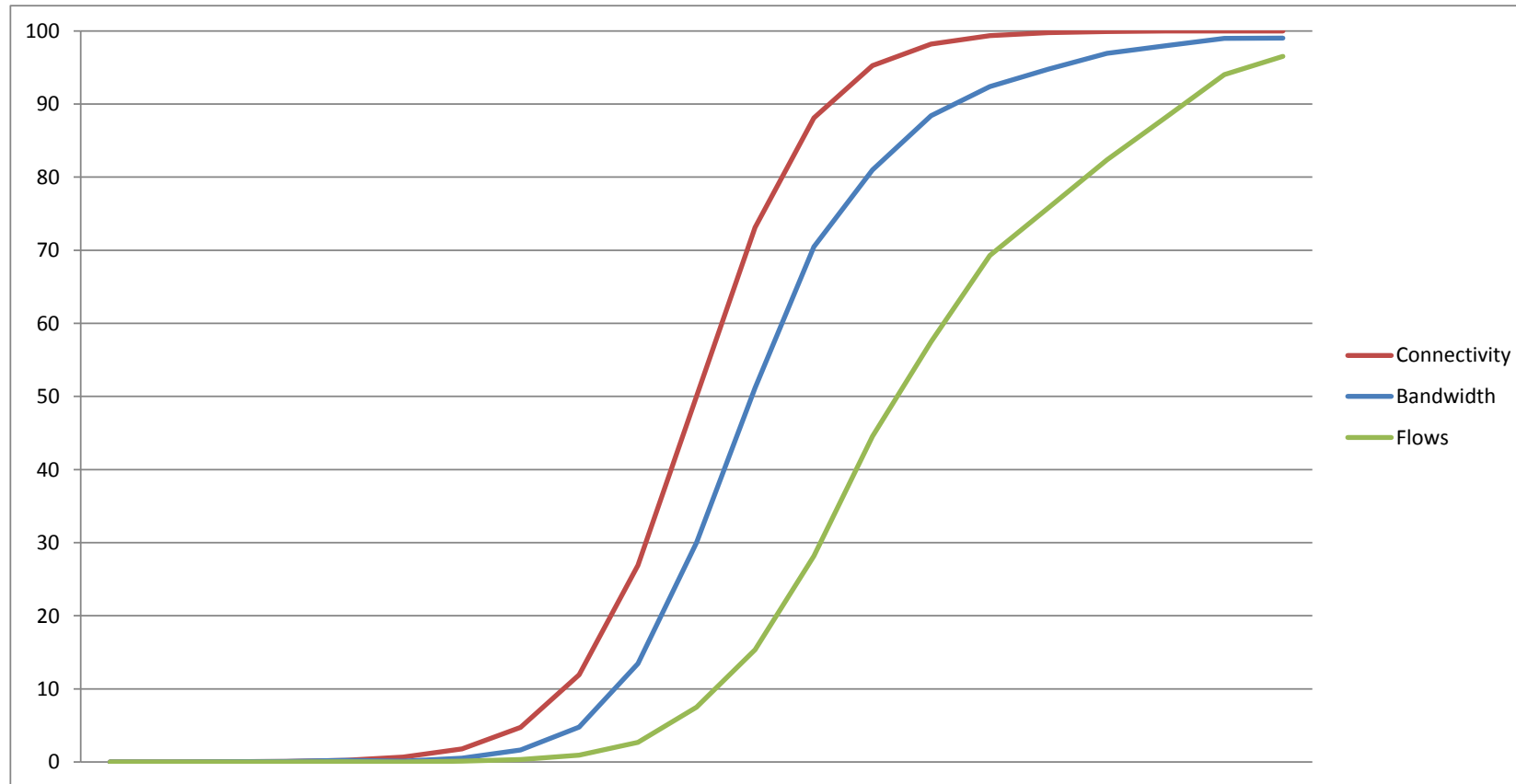
Bandwidth lags behind Connectivity

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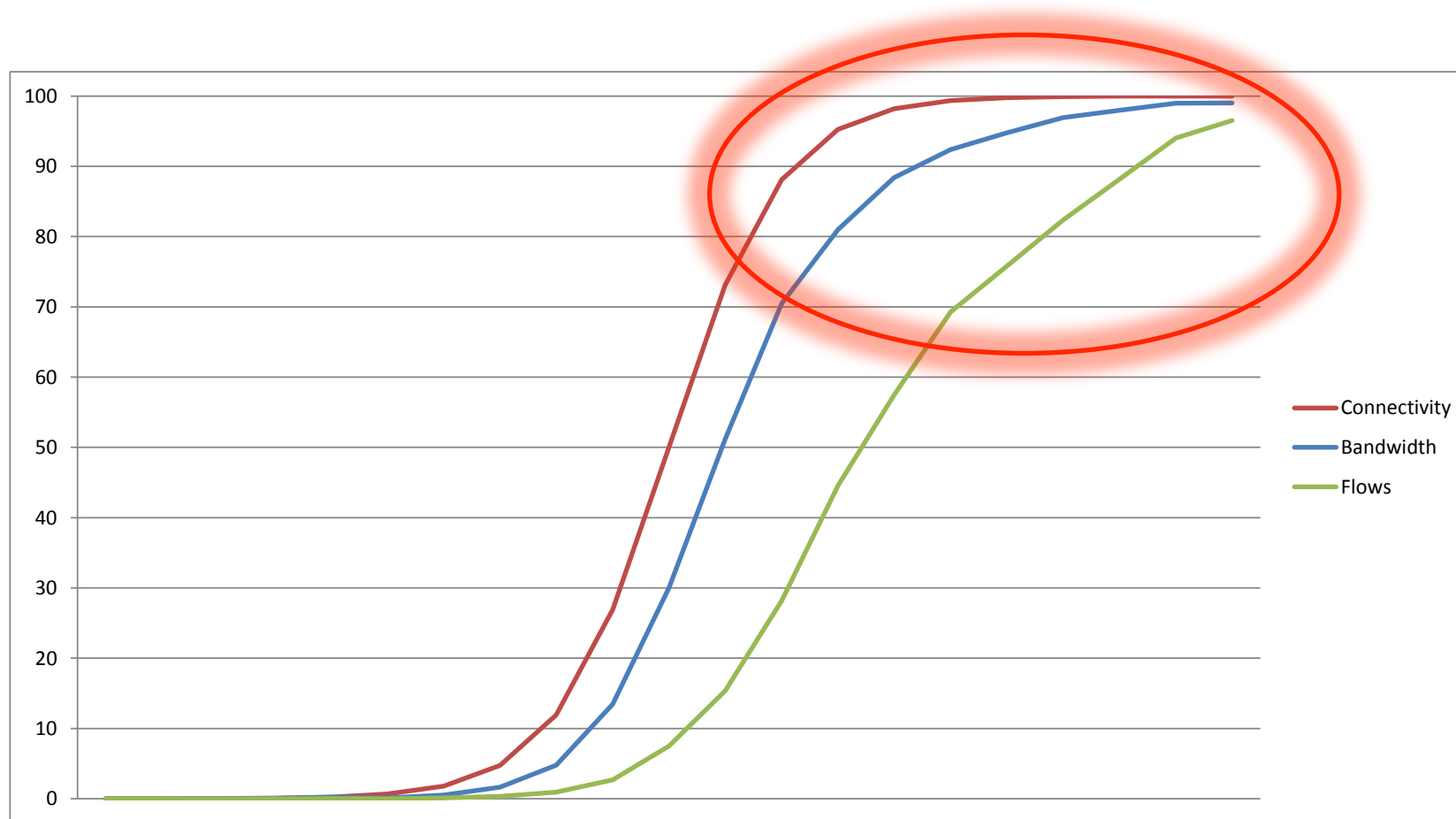
Flows lag even further behind

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Complete your transition before this point

24



Begin the feast!

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Thank You
And watch this space...