JP IPv6 Measurement

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IPv6 Measurement in Japan

- This presentation provides IPv6 measurement information conducted by:
  - IPv6 promotion Council Japan
  - Intec Inc.
  - Internet Association Japan IPv6 deployment committee (IAJapan IPv6 DC)

Measurements by IPv6 Promotion Council Japan

IPv6 Promotion Council in Japan

- IPv6 Promotion Council
  - Established on 2001.
  - Aims
    1. Pursue an international leadership role for Japan in the Internet field
    2. Develop rich human resources for continuous development of a new infrastructure for a high information society
    3. Promote new business and vitalize existing business in hardware, software and service of networks and devices
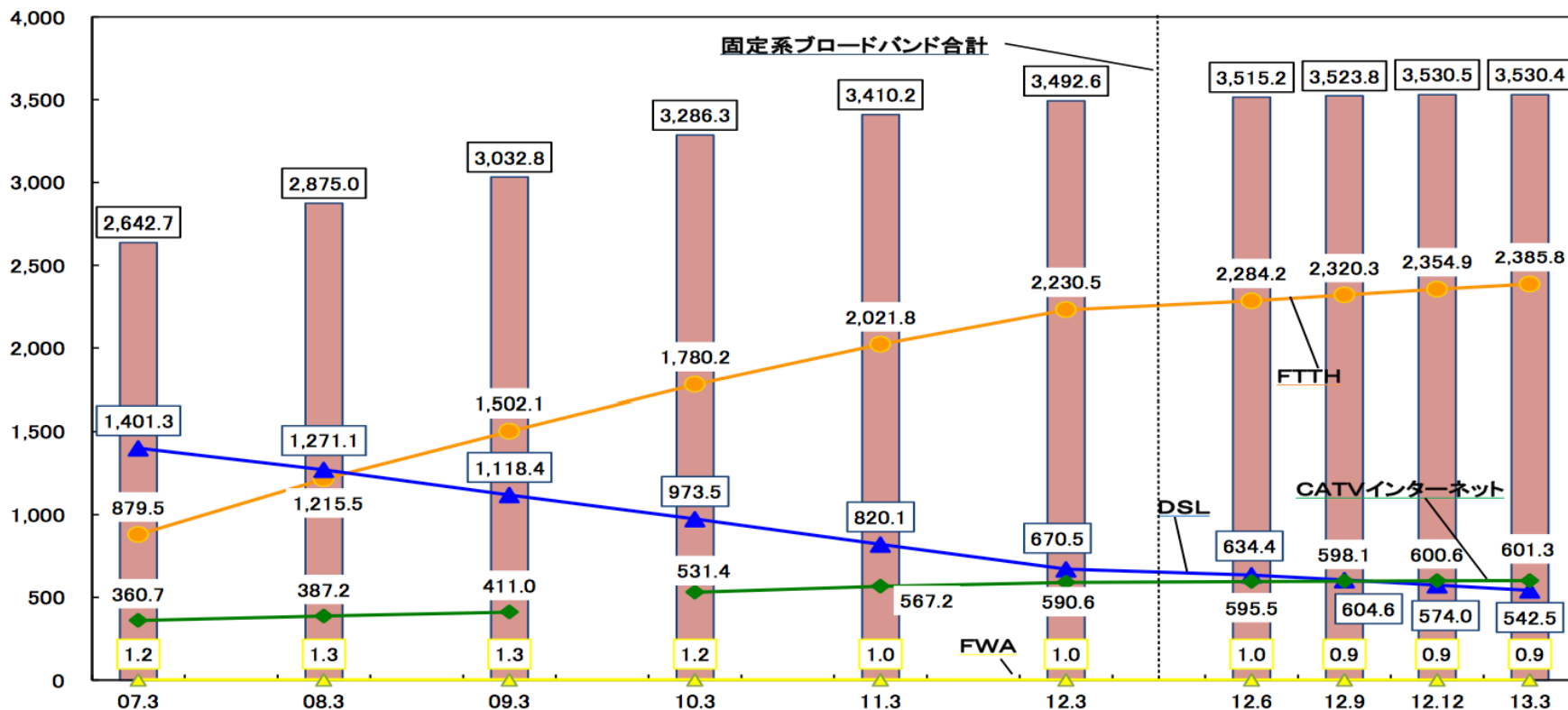 - http://www.v6pc.jp/en/index.phtml

Working Groups in IPv6 PC

5
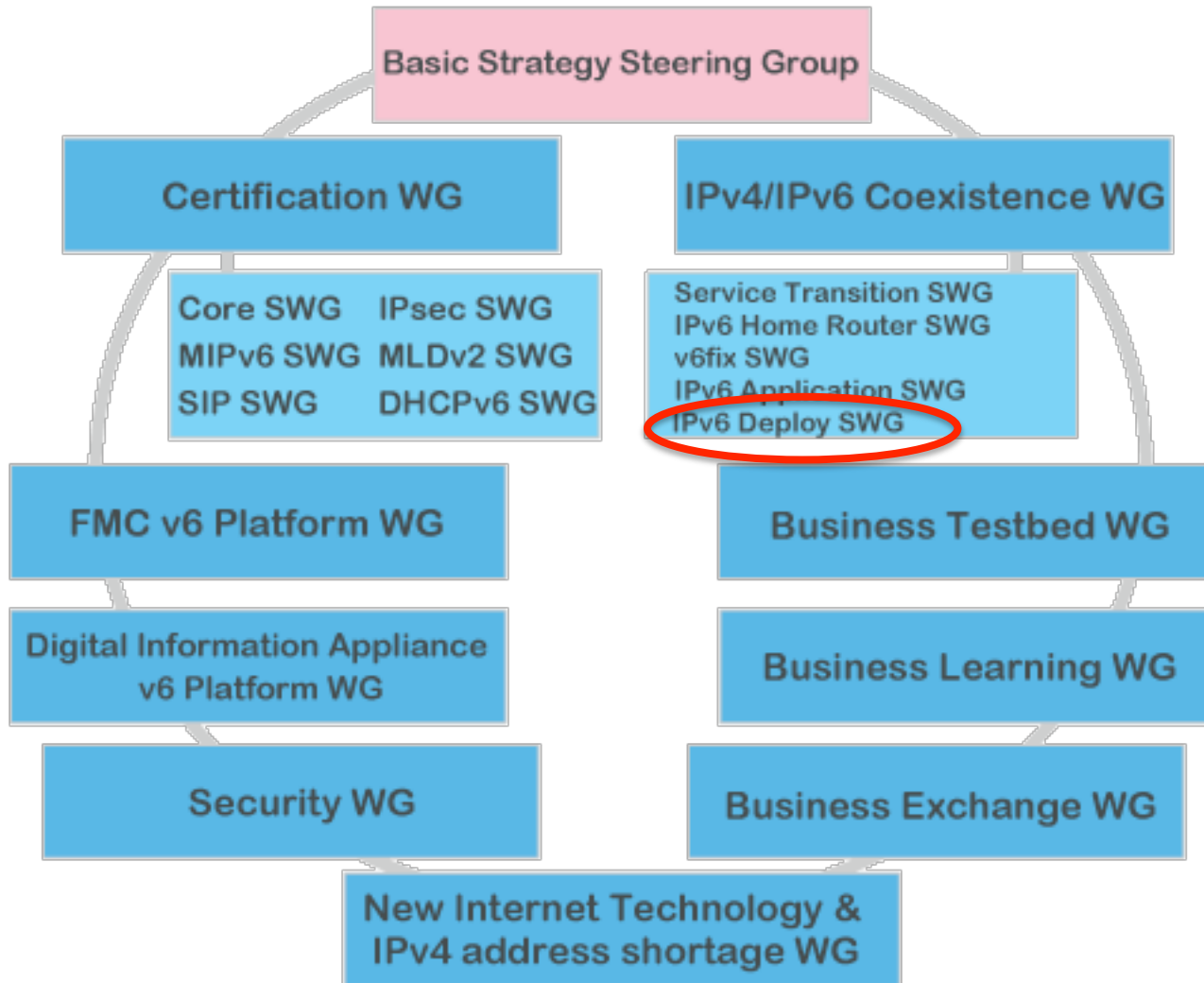
Fixed line Internet access service in Japan

- Fiber service is almost 70% of the total.

# of users in 10K

From: http://www.soumu.go.jp/main_content/000235122.pdf

Fiber access line service share

- About 70% ISPs use NTT East & West Internet access platform (called 'Flets')
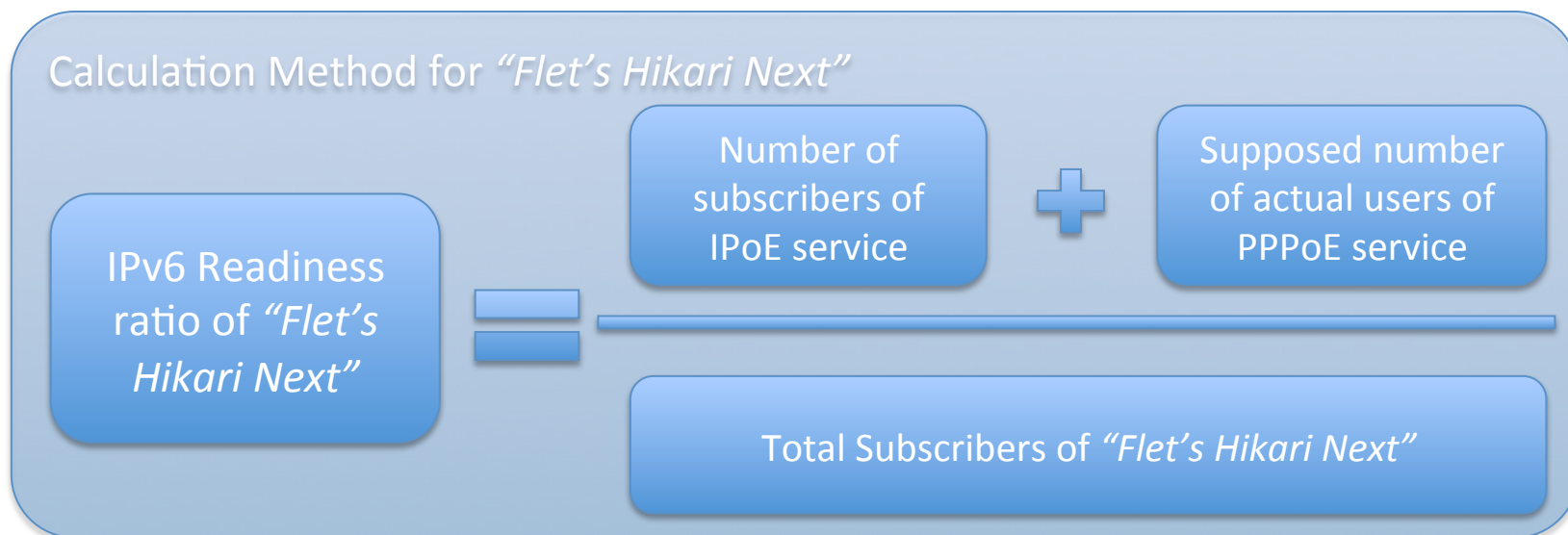   - NTT's access platform supports IPoE and PPPoE to access IPv6 Internet
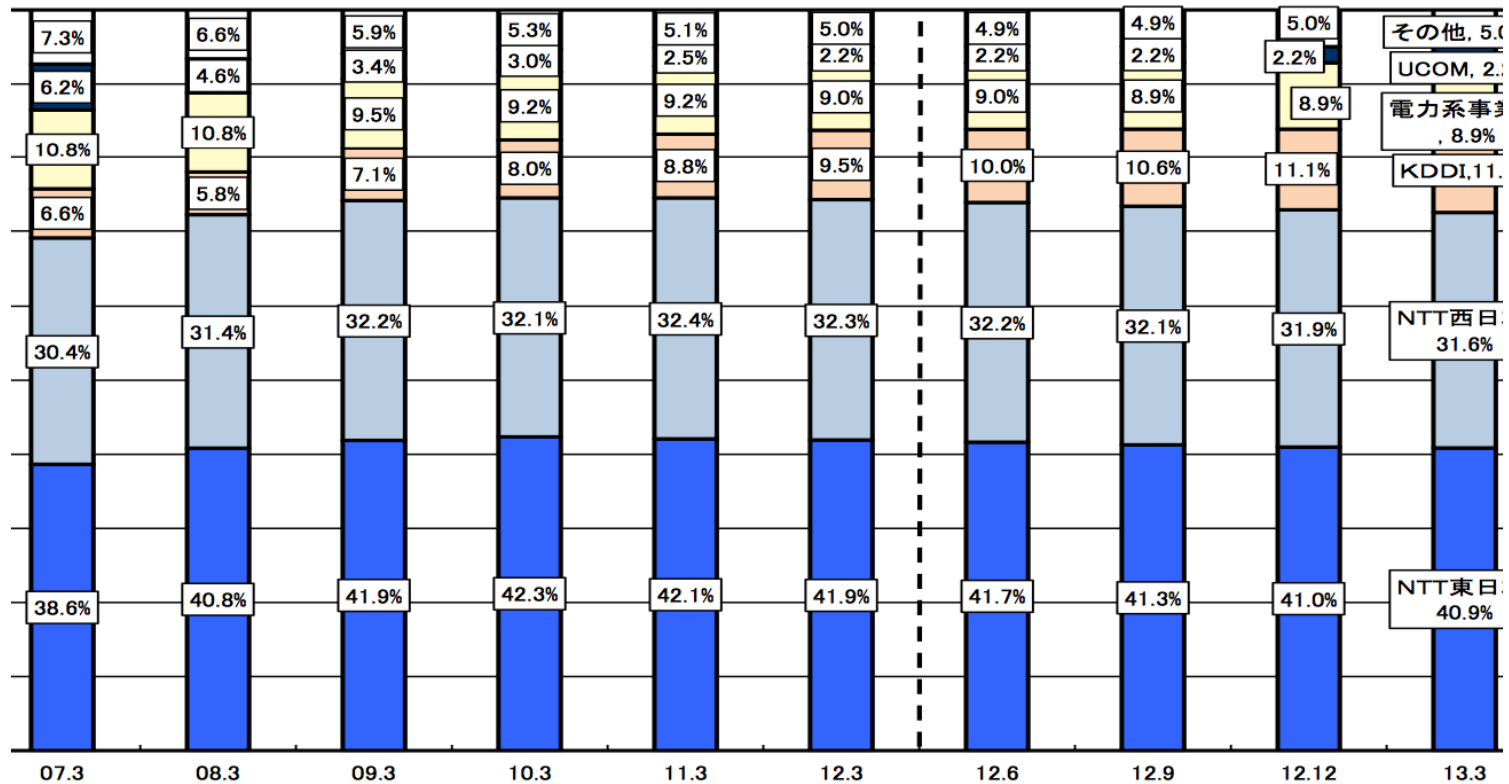
From: http://www.soumu.go.jp/main_content/000235122.pdf

IPv6 service penetration rate in Japan

- Target services:
  - ISPs using NTT East & West Internet access platform (Flets)
  - For reference:
    - KDDI au Hikari (KDDI)
    - Chubu Telecommunication co, Inc. (CTC)

- % of IPv6 users in above services.

IPv6 service penetration rate in Japan

	Flet's Hikari Next	For reference	
		KDDI	CTC
Dec. 2012	0.8%	55%	24%
March 2013	1.4%	61%	29%

Calculation Method for *"Flet's Hikari Next"*

IPv6 Readiness ratio of *"Flet's Hikari Next"* $=$ $\dfrac{\text{Number of subscribers of IPoE service} + \text{Supposed number of actual users of PPPoE service}}{\text{Total Subscribers of "Flet's Hikari Next"}}$

IPv6 Traffic to Google

Rank	Name	ASNs	IPv6
1	KDDI	2516	17.75%
2	SoftBank BB	17676	2.23%
3	ctc	18126	27.34%
4	IIJ	2497	1.76%
5	Sony Global Solutions	9619	99.01%
6	TDNC	9354	3.50%
7	So-net	2527	0.54%
8	iTSCOM	9365	3.29%
9	BIGLOBE	2518	0.43%
10	star cat	17529	12.86%
11	bit-drive	9600	6.86%
12	UCOM	17506	0.47%
13	SINET	2907	1.65%
14	Yahoo! Japan	55898	64.20%
15	OCN / plala	4713	0.02%
16	FreeBit	4691, 10013	0.22%
17	K-Opticom	17511	0.11%
18	@nifty	2510	0.11%
19	TOKAI	10010	0.09%
20	Keio University	38635	11.19%

- This table shows the amount of IPv6 traffic from the major networks (ASNs) in Japan to Google on 21st August , 2013.
- Absolute number of IPv6 traffic is ranked higher.
- Of the total number of access, right-most column shows the proportion of the IPv6 access.
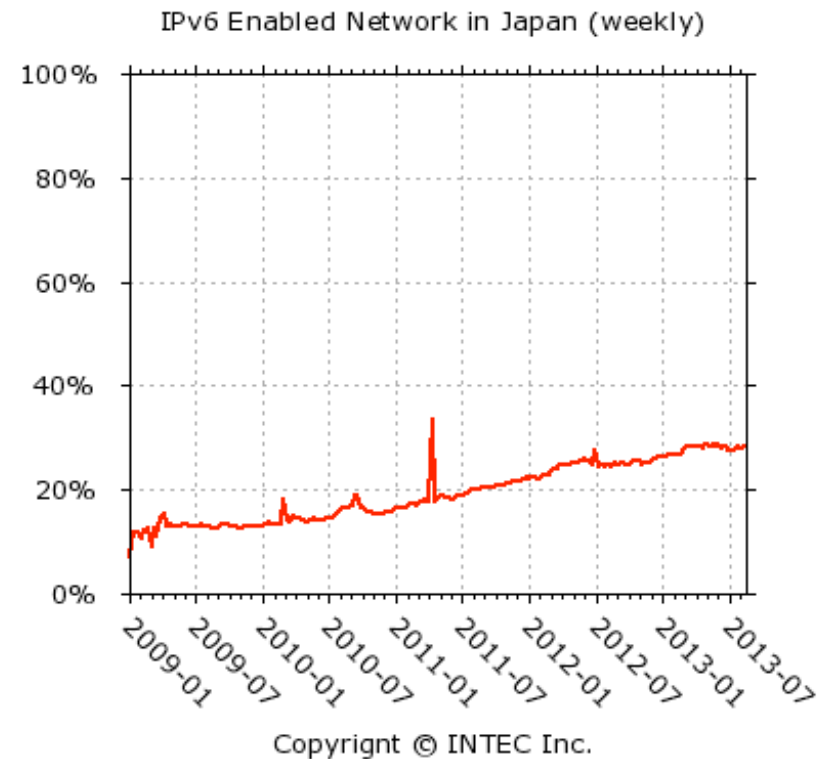
Measurements by INTEC INC.

IPv6 penetration rate： Internet backbone

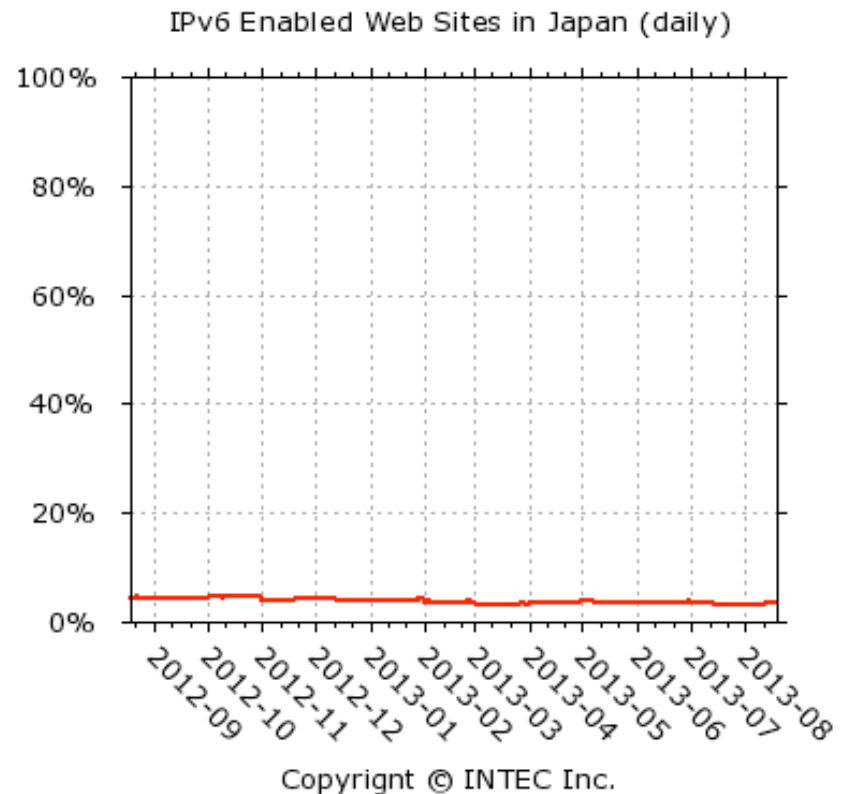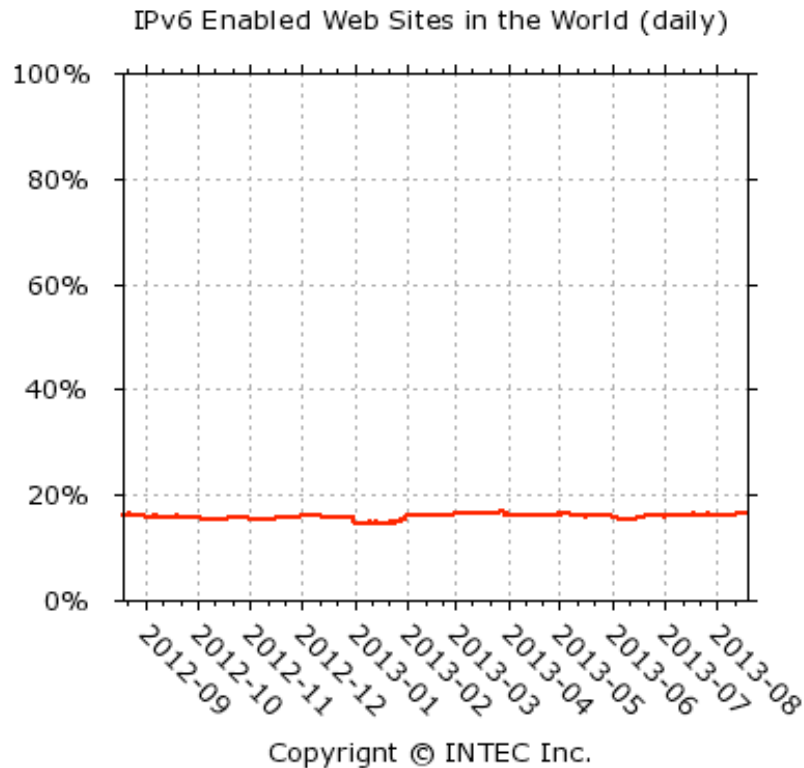The number of IPv6 enabled of Transit AS in BGP routing tables.
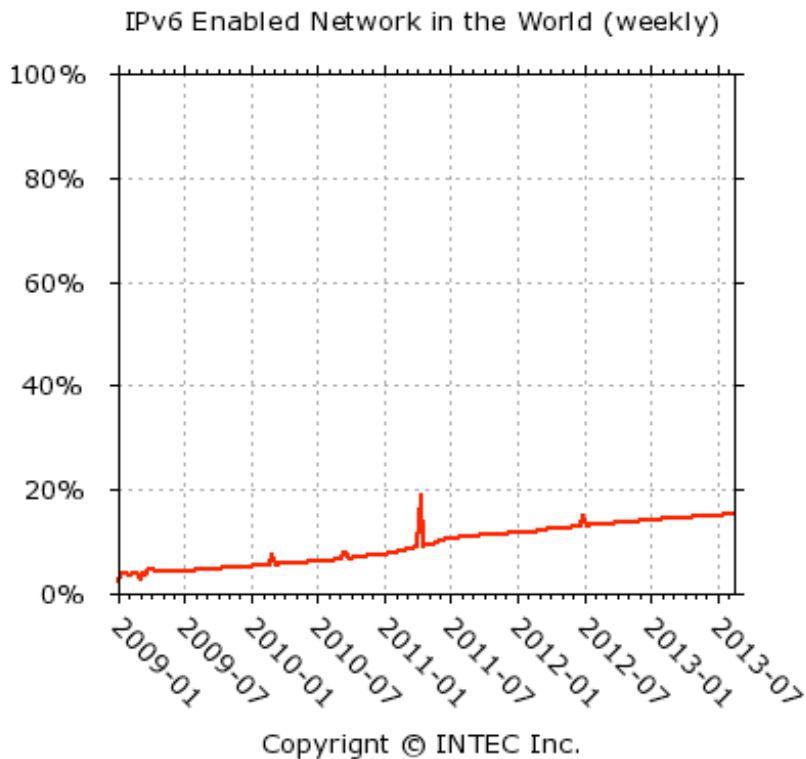
IPv6 Enabled Network in the World (weekly)
Copyright © INTEC Inc.
Ratio of IPv6 enabled origin AS

IPv6 Enabled Network in Japan (weekly)
Copyright © INTEC Inc.
Ratio of IPv6 enabled transit AS

http://www.inetcore.com/project/metrics/index.html.en

IPv6 penetration rate : web servers

The number of IPv6 enabled site in the top 500 web sites which is published by Alexa Internet, Inc.

IPv6 Enabled Web Sites in the World (daily)

Copyrignt © INTEC Inc.

Ratio of IPv6 enabled web servers

IPv6 Enabled Web Sites in Japan (daily)

Copyrignt © INTEC Inc.

Ratio of IPv6 enabled web servers

http://www.inetcore.com/project/metrics/index.html.en

Other measurements

- INTEC INC. also provides information for:
  - IPv4/IPv6 RTT difference
  - % of IPv6 users
  - OS Type access, and so on

  Please visit below URL for more information

  http://www.inetcore.com/project/metrics/index.html.en

- They provide their data to IPv6 promotion council in Japan
  - Can be referred from
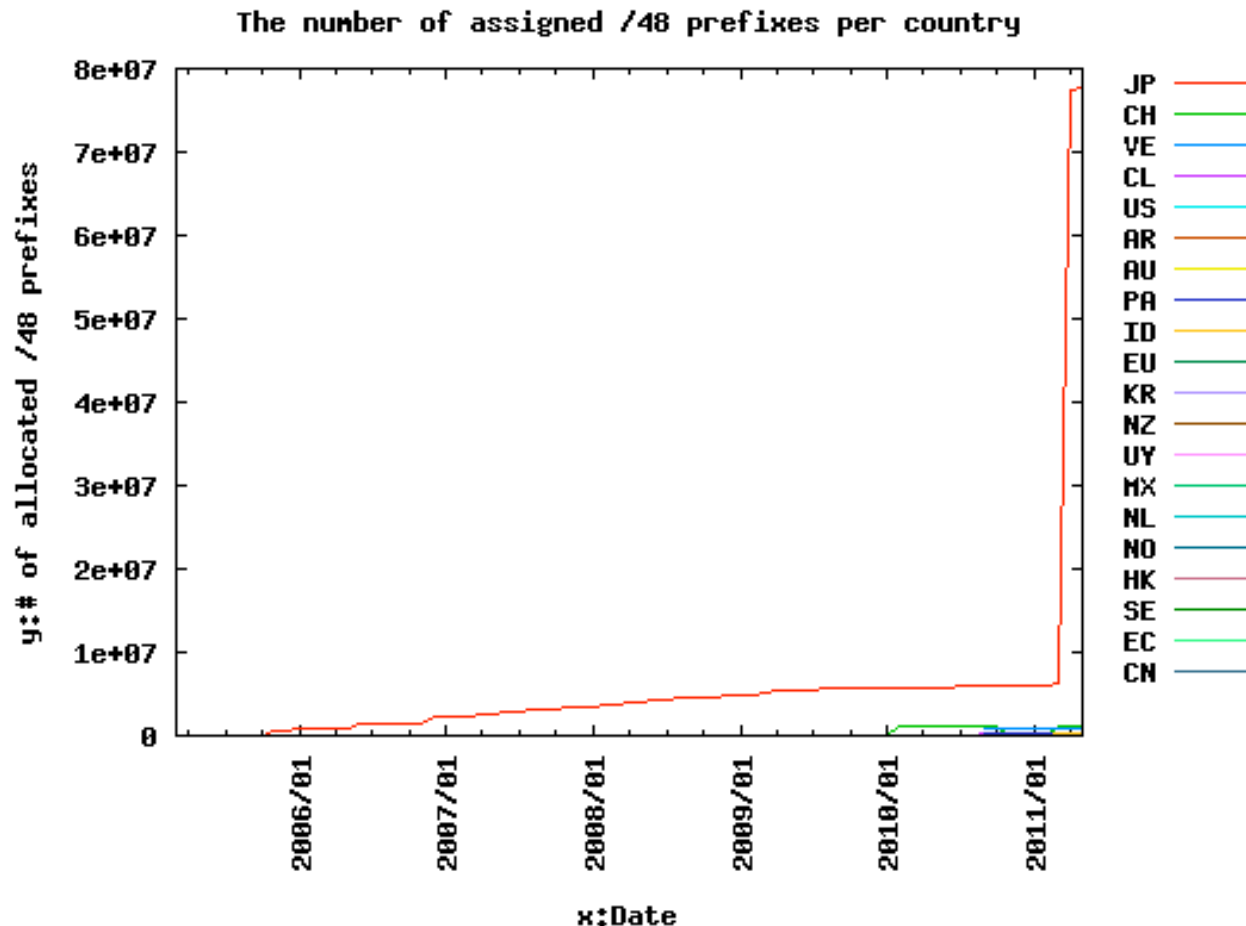   http://v6pc.jp/jp/spread/ipv6spread2013_03.phtml

Measurements by IAJapan
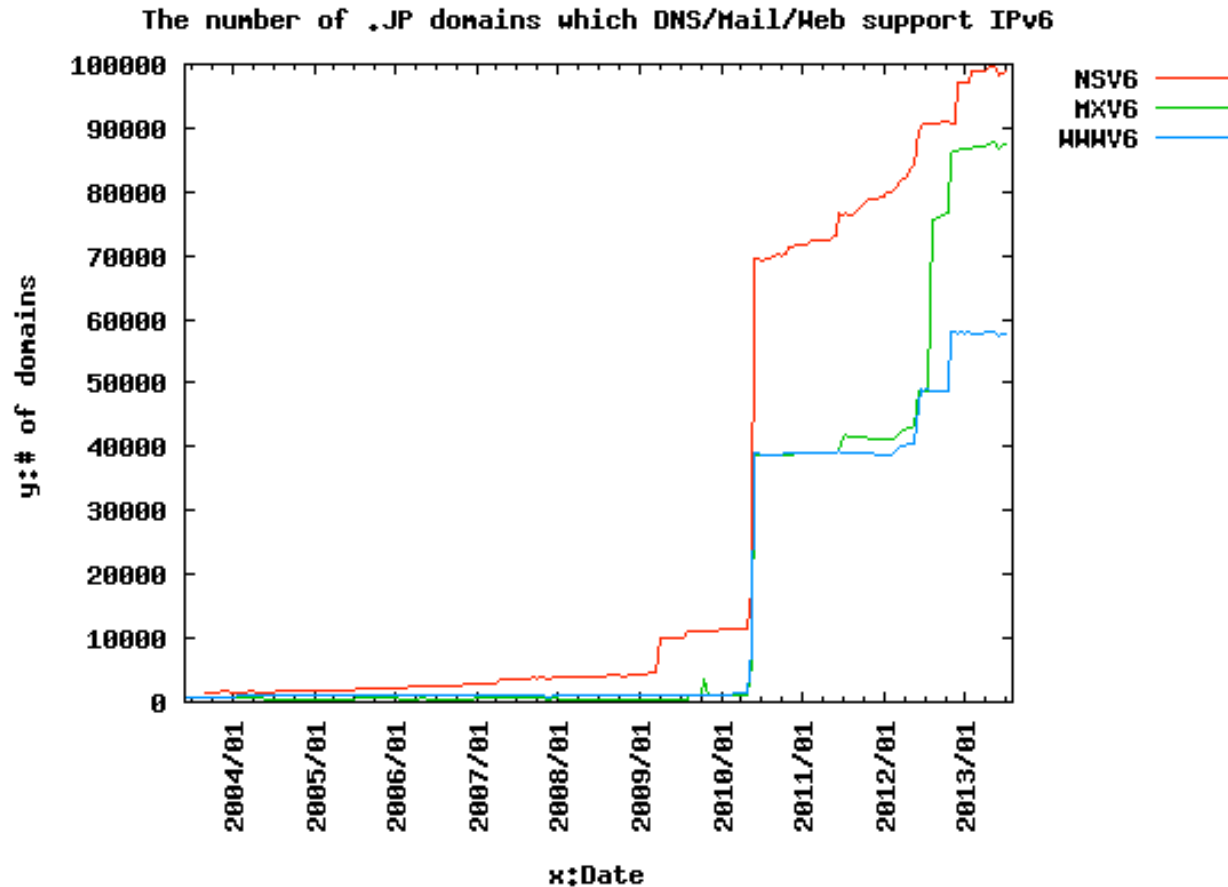
IPv6 measurements by IAJapan IPv6 DC

- IAJapan IPv6 DC has provided IPv6 measurement information from 2003.
  - IPv6 Address allocation
  - IPv6 BGP routing table information
  - DNS queries
  - DNS deployment

Number of assigned /48 IPv6 address block

the progress of the number of IPv6 address block assigned from LIR to ISP and/or end-user classified by each country

The number of assigned /48 prefixes per country

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IPv6 supported .jp domain name servers

The number of .JP domains which DNS/Mail/Web support IPv6

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- Please visit http://v6metric.jp for more information

QUESTIONS?