

Large-Scale IPv6 Technology Deployment on NTT

Ichiro Mizukoshi

NTT EAST

i.mizukoshi@east.ntt.co.jp

2013 Sep 5

NTT EAST

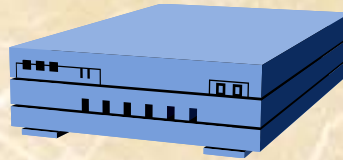
Nippon Telegraph and Telephone East Corporation



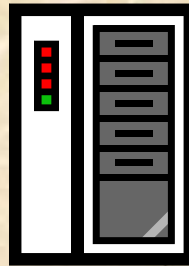
FLET'S



HGW



ADSL,
FTTH,
Et.



Only Access Line



NANOG 13 - Dearborn, MI - June 8-9 1998
Hosted by Merit Network Inc. <http://www.merit.edu>

History 1/2

2000 Jul ISDN ~ 64kbps

2000 Dec ADSL ~ 47Mbps

2001 Aug FTTH ~ 200Mbps

History 2/2

2004 Jan Flets .net



IPv6
multicast

2004 Jun FletsPhone videophone on IPv6

2004 Sep ひかり電話 (PSTN on IP)

FLET'S NEXT on 2008

- Intranet: IPv6
 - SIP, QOS PSTN
 - Multicast Broadcasting TV
- Intenet: IPv4 by PPPoE

Scale Mar 2013

- FTTH Customer 9,750,000
- ひかり電話(PSTN on IP) 83% (8,085,000)
- ひかりTV by plala (TV program on Multicast) 13%~15%

Internet: IPv6 discussion Point

IP address

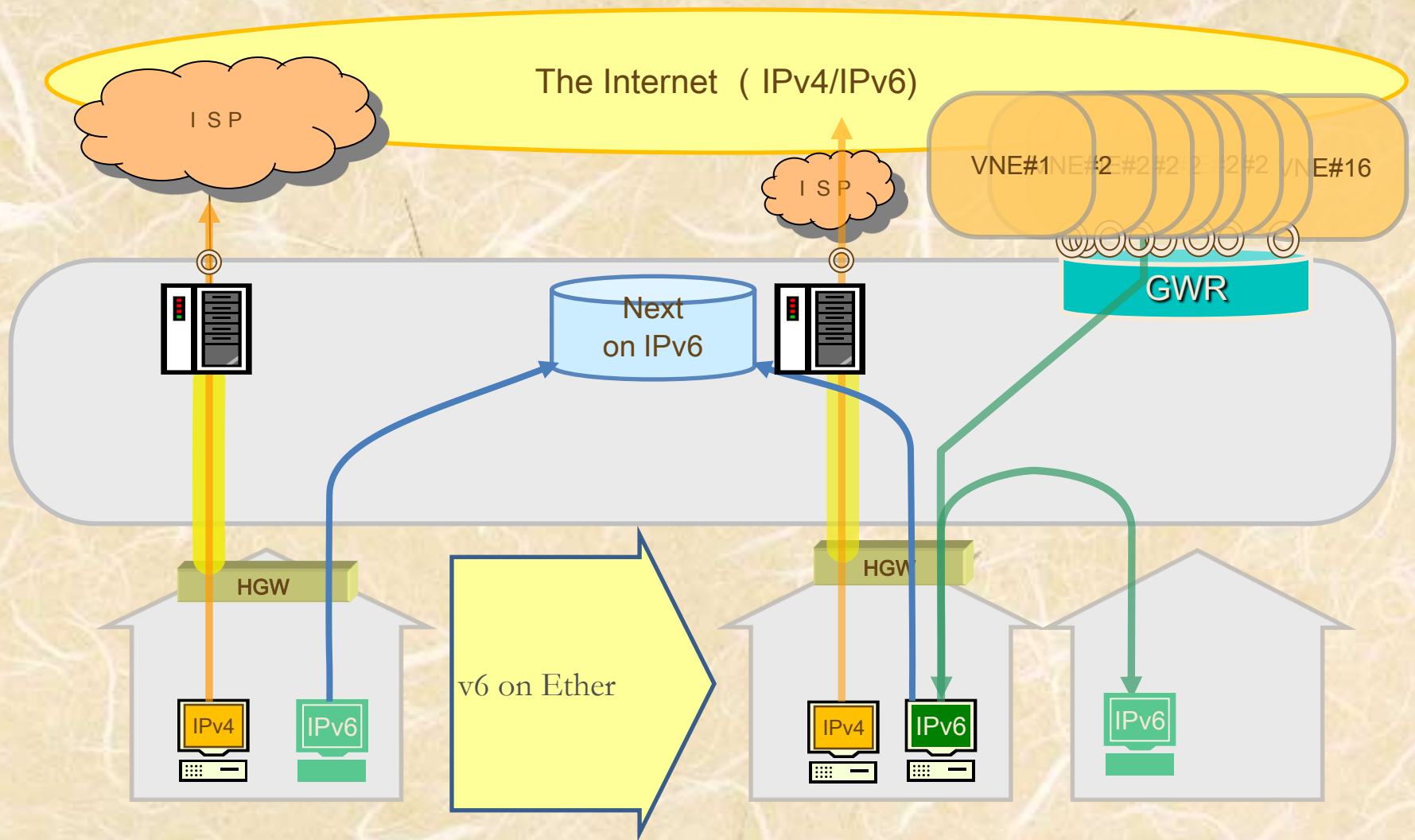
HGW

Internet: IPv6

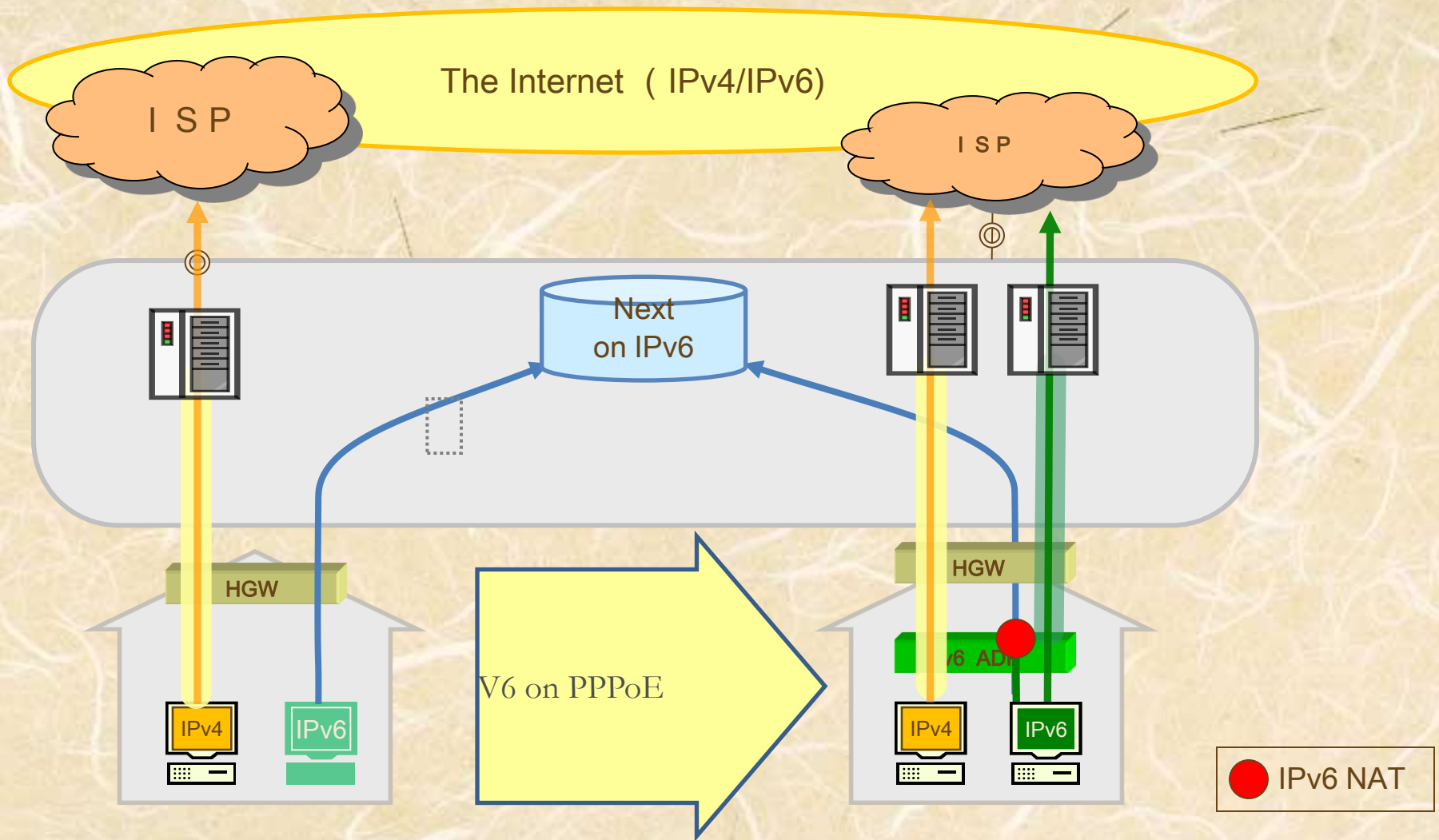
v6 on Ether

v6 on PPPoE

v6 on Ether



v6 on PPPoE



Flet'Next IPv6 Internet

May 2011

V6 on PPPoE

Jul 2011

V6 on Ether

Scale

Penetration ratio of IPv6 customer

- 2012.12 0.8%
- 2013.03 1.4%
- 2013.06 2.0%

Driver

- Updated HGW
 - 2013 Apr IPv4 over IPv6
 - 2014 1Q IPv6 PPPoE + IPv6NAT

IMHO: Any regrets?

Ichiro Mizukoshi

mizukoshiichiro@gmail.com

2013 Sep 5

IPv6 access network: Achieved

- Multicast
- QoS
- SIP
- BCP38:RFC2827 (ingress filtering)

3 regrets

- Jumbo Flame

- v6 as transport

- QoS

- monetize

- FMC, Cloud...

- Smartphone centric, fixed line for offloading