

# **Deployment with Dual-Stack Lite (DS-Lite) and lesson learned about CPEs on IPv6 network**

Takeshi MOTOHASHI

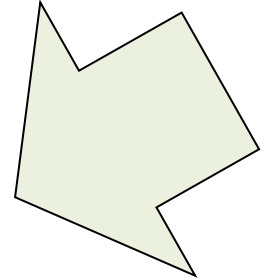
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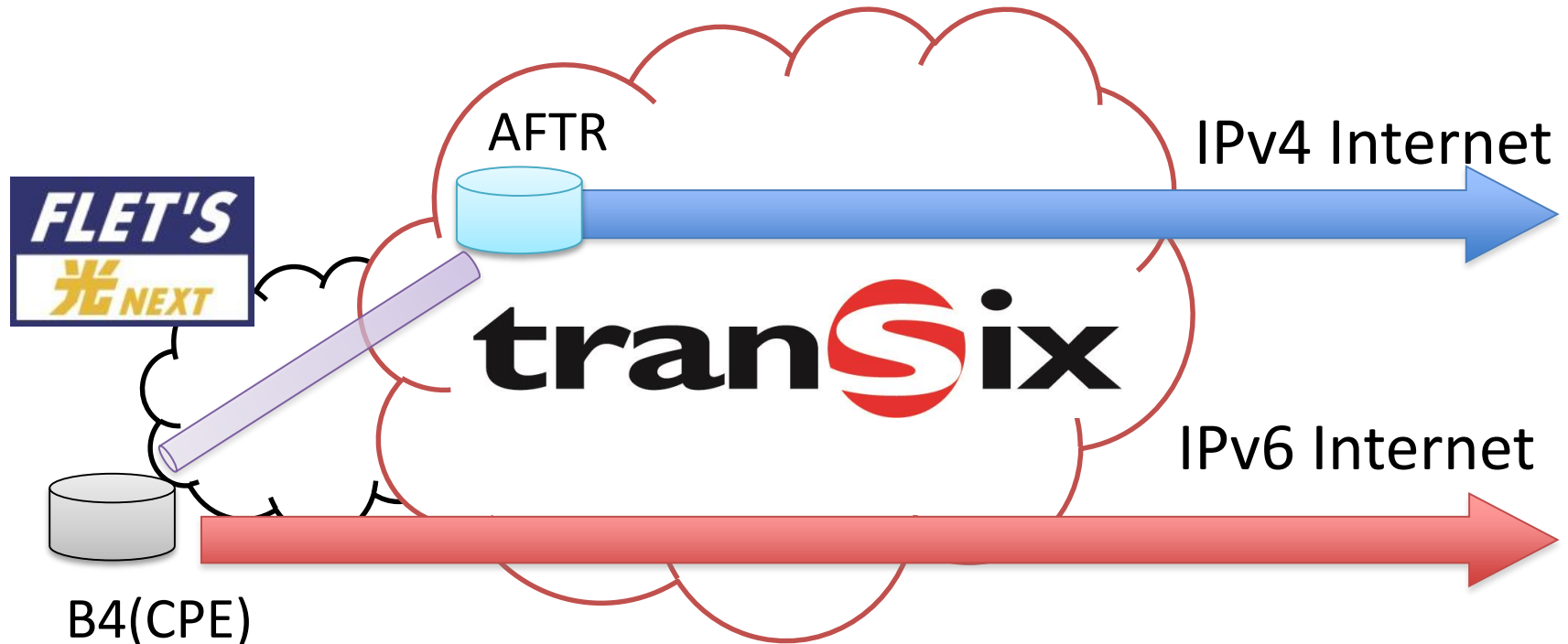
March 2015 at APRICOT-APAN2015

# The Services of Internet Multifeed

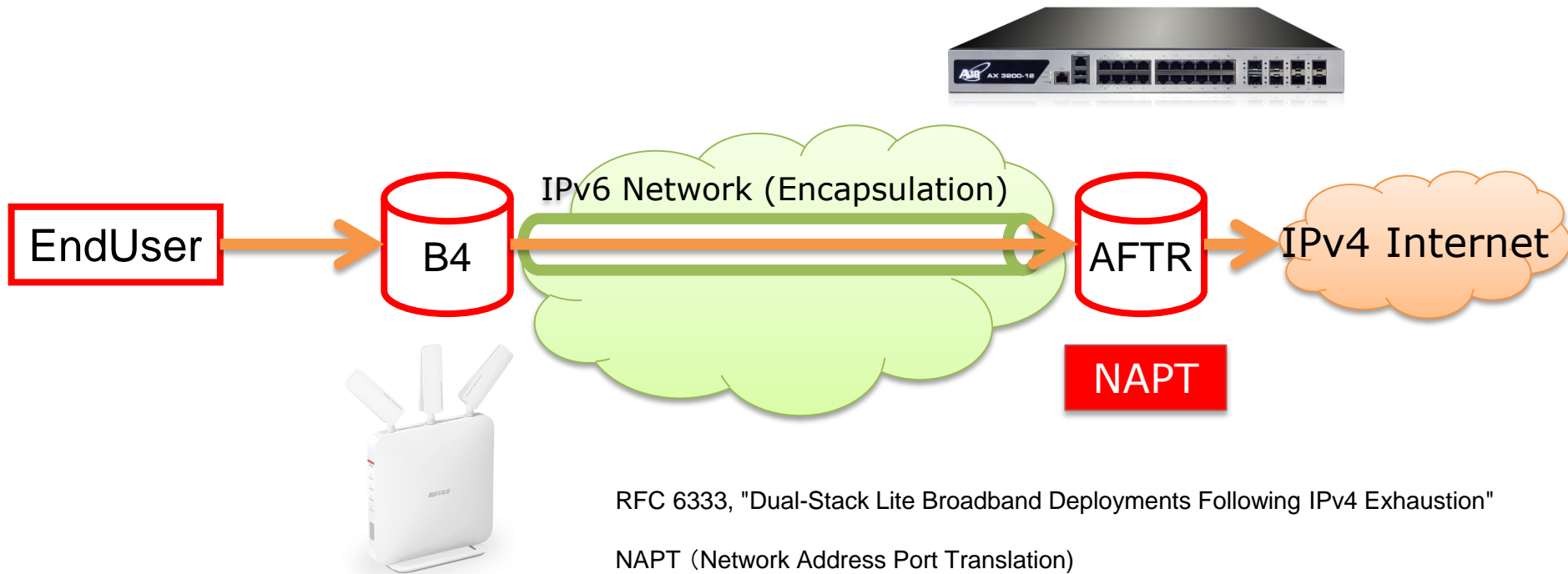
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- IPv6 IPoE (IP over Ethernet) on NTT East & West Flet's Hikari Next
- VNE (Virtual Network Enabler)
- IPv4 over IPv6 service started since October 2014



- The IPv4 over IPv6 service is based on DS-Lite
- AFTR is ready on transix network
- End users (or ISPs) need to prepare B4 CPE for using DS-Lite



RFC 6333, "Dual-Stack Lite Broadband Deployments Following IPv4 Exhaustion"

NAPT (Network Address Port Translation)

B4 (Basic Bridging BroadBand) AFTR (Address Family Translation Router)

- We need to take care of both:
  - DHCPv6/PD (Prefix Delegation)
  - RA (Router Advertisement)
  
- How CPEs in Japan work with IPv6 and DS-Lite?
  - Buffalo WXR-1900DHP
  - IIJ SEIL
  - Huawei WS325
  - YAMAHA NVR500
  - Cisco 1812J

\* Based on investigation as of February 2015

- **For DHCPv6/PD (Prefix Delegation)**
  - **IPv6 and DS-Lite: both work well with the CPEs**
  
- **For RA (Router Advertisement)**
  - **DS-Lite works well with the CPEs**
  - **Variety of configuration for IPv6**
    - **IPv6 path through / ND proxy**
  - **Custom configuration necessary for filtering**
  
- **AFTR address setting: Hostname / IP address**

\* All information based on Web news and manuals online

- **ISPs with DS-Lite**

- **Greece: Forthnet (2014/6)**
- **Poland: Orange Polska (2015/1)**
- **Germany**

- **CPEs with DS-Lite**

- **D-Link, Huawei, TP-Link, Sitecom, AVM, NEC**
- **OpenWrt**

**We are happy to share and exchange information  
for deployment with DS-Lite**

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