Status of IPv6 in Japan

Akira Kato

WIDE Project

kato@wide.ad.jp

© 2000, Akira kato. All rights reserved.

Development

- KAME
  - IPv6 stack for *-BSD Unix
- TAHI
  - Interop test suite
- Yamaha RT50i/RT52i
  - ISDN router, beta supports IPv6
  - RIPng
- Hitachi GR2000
  - High performance router
  - Now able to fill FastEthernet
  - RIPng + BGP4+
  - No OSPF at the moment

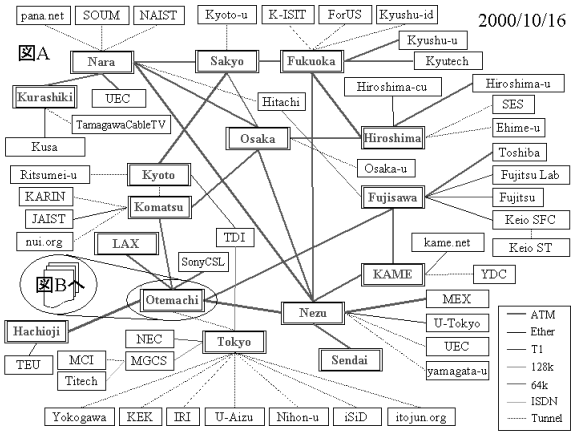
IPv6 addresses in JP

- 4 pTLA holders
  - /24: WIDE/NTT-ECL
  - /28: IIJ/DTI
- 9 sTLA holders
  - WIDE/NTT/JENS/IIJ/IMnet
  - InfoWeb/Biglobe/DION/ODN
- Operational status
  - WIDE: native service for non-profit
  - IIJ: native service since Sept
  - Others: in-preparation
  - All of them are on NSPIXP-6

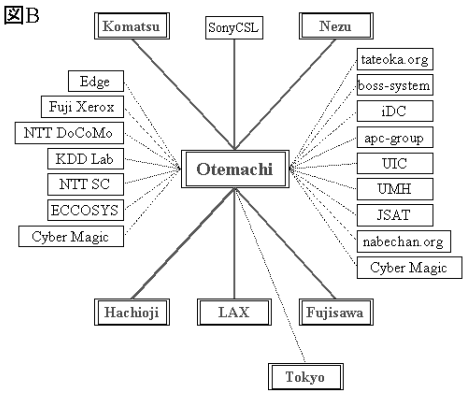
WIDE 6bone

- Nation-wide IPv6 testbed
  - Operational since June 1996
  - Mostly FreeBSD PCs w/ KAME
  - Most of the links are "native"
    - Long-Haul GbE w/ WDM
    - L2 POS-Ethernet Switch
    - ATM PVC
  - IPv6 only routers
    - In conjunction with IPv4 only routers
  - One of most active IPv6 clouds

WIDE 6bone



WIDE 6bone



WIDE 6bone

- **Rich domestric connectivity**
  - **Through NSPIXP-6**
- **Rich international connectivity**
  - **Peers with 6tap since July 1999**
    - Through APAN, native IPv6 over ATM
  - **AP Region through APAN**
    - SG, KR, and MY
  - **AP Regison through AI3**
    - Being deployed
    - TH, ID, MY, PH, SG, (CN), (VN), (LK)
  - **3Mbps ATM link to LAIIX**
    - An IPv6 IX in Los Angeles

NSPIXP-6

- **An experimental exchange in Tokyo**
  - **Operational since Aug 1999**
  - **Same room as NSPIXP-2**
    - ISP's convenience
  - **Single FastEthernet switch**
    - Not providing commercial quality service
  - **Remote Access through ATM**
    - w/ ATM-Ethernet Bridges

NSPIXP-6

- **Current participants**
  - **Academic**
    - WIDE, IMnet, APAN-JP
  - **ISPs**
    - IIJ, AT&T JENS, ODN
    - NTT-C, DTI, BIGLOBE
    - TTNet, AVOBENET, KDDI
    - Global Crossing, INFOWEB
    - Global Center
  - **Experimental**
    - IRI, Intec (Toyama), M6
  - **Requirements**
    - ASN
    - NLA1 or above (sTLA/pTLA)

NSPIXP-6

- **Experiments**
  - **L2 exptention to INET2000 Yokohama**
    - VLAN on GbE over WDM
    - "native" extention
    - For IPv6 demonstrations
    - VIC/VAT over IPv6 to Palo Alto
  - **L2 exptention to Osaka**
    - VLAN on GbE across L2 POS
    - "native" extention
    - Global IPv6 Summit in Osaka
    - Dec 17-18, 2000

Applications

- **Daily life**
  - **ftp.iij.net, ftp.kame.net**
- **Web**
  - **Through local translator: wwwoffle**
  - **w3m: char based browser**
- **New apps**
  - **DV over IPv6**
    - 30Mbps stream
    - Requires "New Path"
    - Used for "distance education" trials
    - www.sfc.wide.ad.jp/∼keiko/inet2000/

URLs

- **IPv6 tutorial in APAN Beijin**
  - **www.soi.wide.ad.jp/class/20000000/slides/04/**
- **6bone-jp**
  - **6bone-jp.v6.wide.ad.jp**
- **KAME**
  - **www.kame.net**
- **TAHI**
  - **www.tahi.org**
- **Distance Education**
  - **www.soi.wide.ad.jp**
- **Global IPv6 Summit**
  - **www.jp.ipv6forum.com**