IPv6 deployment in “FLET’S Hikari Premium”

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What is “FLET'S Hikari Premium”? [1]

- Fiber access
  - GE-PON, VDSL100Mbps for apartments
- IPv6 base
- Broadband network service
  - Native IPv6 routing network
What is “FLET’S Hikari Premium”? [2]

- Latest in FLET’S access line services
  - Started in Mar. 2005
- Service area: 30 pref.
  (coverage of NTT-West)
  - Over 2M subs. (2005.3 ~ 2007.10)
“FLET’S” Service Overview

- Started with “ISP access service” in Dec. 1999
  i.e. ISDN flat rate service for the “dial-up”
  - Served by tunneled session on IP-network
- Also, offers VPN service, Contents and Communication tools
- Supports several type of access line
  - ADSL, Media Converter (MC), PON, VDSL for apartments, WiFi at public
- Core Network was IPv4 (before “Premium”)
What’s new in “Hikari Premium” [1]

- More broadband & Always-On
- Native IPv6 service
  - Multicast support
  - QoS featured
  - Address
    - /48 assigned per subscriber
    - CTU serves /64 (NDP), /52 (DHCPv6-PD)
Architectural change

The FLET’S architecture:

Before “Premium”

“Premium” has enabled direct-routing capability.
What’s new in “Hikari Premium”

[2]

- “CTU” -- Customer Terminal Unit
  - CPE: IPv6 router in the home
  - Provide IPv4 tunnels
  - NAT, Filtering, SPI, DHCP(v4) are equipped
- Security-suite software* for PC
- High quality video phone client*
- TV channels, VoD services provided by ASPs

* bundled 1 license/line
Service Overview of “FLET’S Hikari Premium”

Connectivity for Content
Multicasting & Unicasting.  
... for Content Service Provider

The Regional IP Network
(IPv4) (IPv6)

ISP

ISP Session

Security Functionality
The PC application performing Anti-virus, Anti-Spyware, etc. Its pattern file is provided within the IPv6 network.

Multicast Functionality
Receive the contents via multicast/unicast from Content Service Provider.

High Quality Video Phone Functionality
• for PC (Win-XP, Vista)
• max-size: VGA
• max-rate: 30fps
• voice: 64kbps
• Video Conference (max 4 sites)
• Video, Voice Messaging
• File Transfer

CTU Remote Control
Control CTU from another site. A group of CTUs can be controlled via Customer Control Web which accessible from a registered line.

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Network Overview of “FLET’S Hikari Premium”

The Internet (IPv4)

- ISP
- GW
- ISP Session

The Regional IP Network (IPv4) (IPv6)

- The Regional IP Network
- ISP Session
- GE-PON
- 10GbE
- QoS
- QoS
- Firewall
- Virus check
- Application

- An end to end communication on B-FLET’S and before

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Application example: Video Phone

- Purely IPv6 based (no IPv4 required)
- Using SIPv6
- MPEG-4 (up to VGA@30fps)
- Conference function supports up to four sites
- Software comes with some tools:
  - File transfer
  - Video messaging service
  - Session recording
Examples of using IPv6 on Hikari Premium

Customer cases of using “v6cast” interface:

• Three providers carry IPTV service  
  (VoD & channel-service)

• Enterprise use of data delivery  
  (a famous convenience store chain)

• Grid Computing Service “Hikari Grid”