(IETF74)
Large Scale NAT (LSN)

draft-nishitani-cgn-01
draft-shirasaki-nat444-isp-shared-addr-01
draft-shirasaki-isp-shared-addr-02

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The Structure of related Internet Drafts

(Large Scale NAT)

NAT
Function

CGN-02

-00 : IETF72 Dublin
-01 : IETF73 Minneapolis

Network
Model

**NAT444
-01**

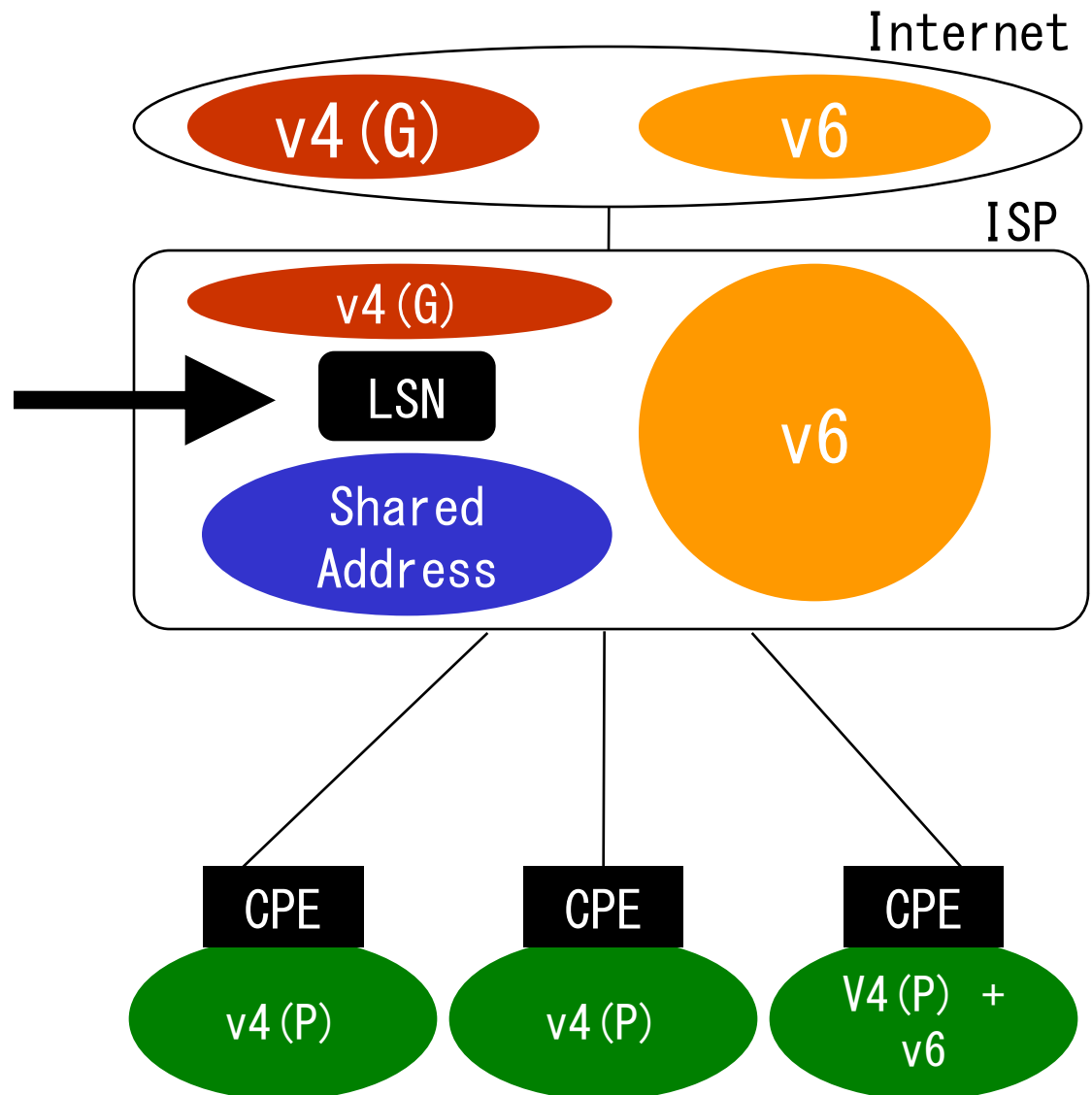**DS-Lite**

**Other
Models**

Address

**ISP Shared
Address-02**
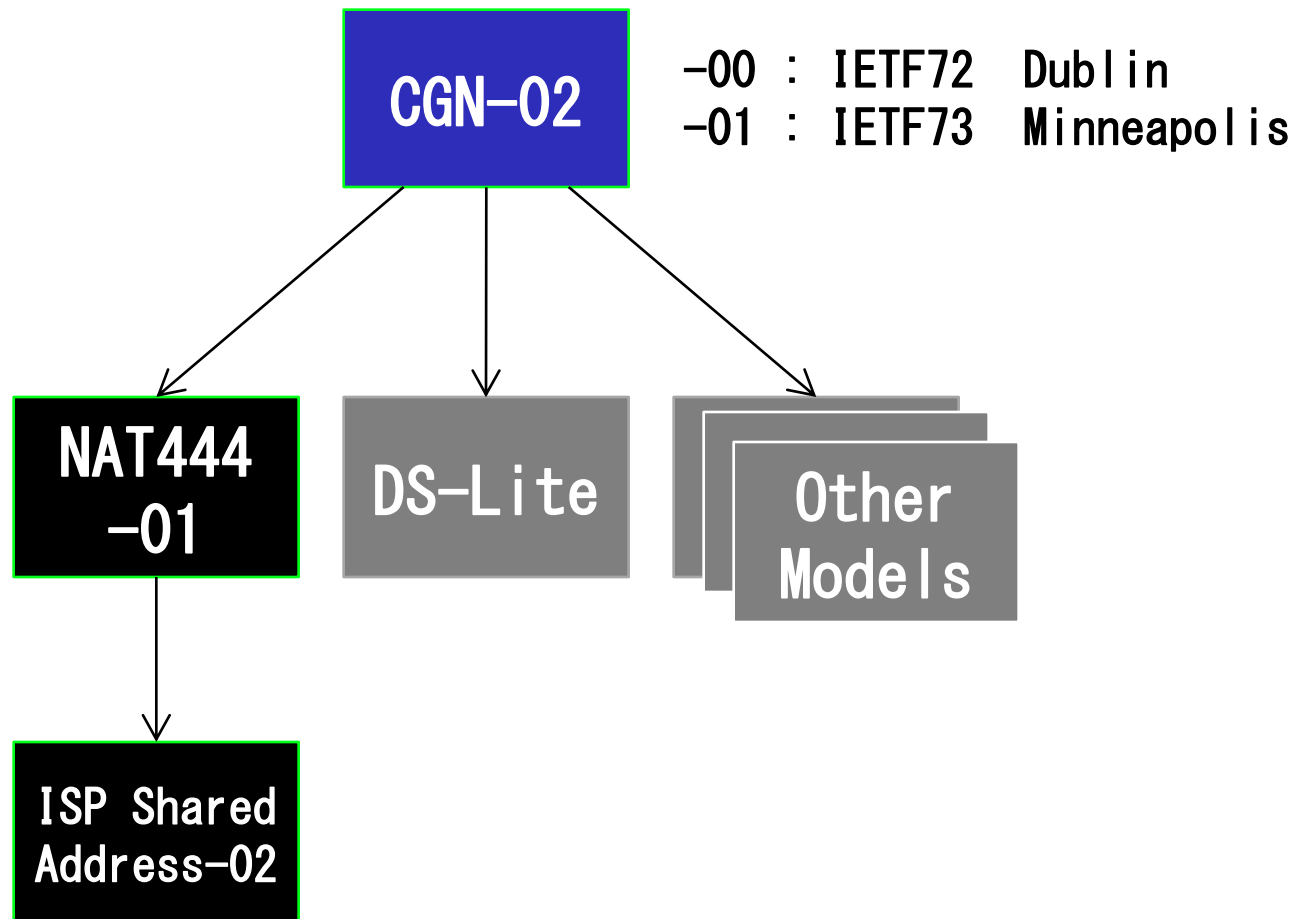
NAT444 Model + Shared ISP Address

v6+v4 Network model for smooth transition

Allow customers to access IPv4-only Internet

LSN : Large Scale NAT

Internet

v4(G)   v6

ISP

v4(G)

LSN

Shared Address

v6

CPE   CPE   CPE

v4(P)   v4(P)   V4(P) + v6

Requirement (1/3)

◆Basic Scheme

- Sharing Global IP Address for CPEs

◆High transparency and high connectivity

- Comply with RFCs and I-Ds of NAT behavior
  - ✧ RFC4787 etc.
- To support DCCP, SCTP and IPsec ESP

Requirement (2/3)

◆Fairness

- Limiting the number of LSN's ports
  - ✧ UDP and TCP, TCP sessions and ICMP.

- Allocating dynamic ports for LSN's port
  - ✧ 49152 - 65535

- Reserving ports for always-available services.
  - ✧ POP3, SMTP, NTP, ...

- Passing through the communication between CPEs and specific hosts.
  - ✧ POP3 server, DNS server, WEB server, …

◆ Translation Log

- ● Address

  - ✧ destination — translated source - untranslated source

- ● Port

  - ✧ destination — translated source - untranslated source

- ● Timestamp