LSN + NAT444 + ISP Shared Address
Renaming CGN

CGN (Carrier Grade NAT)
Sounds for Carrier-only

LSN (Large Scale NAT)
for Carrier
ISP
Enterprise
etc.
Rearrangement of Internet Drafts

NAT Function

Network Model

Address


CGN-00

CGN-01

NAT444-00

DS-Lite

ISP Shared Address-00

ISP Shared Address-01

CGN-01 is applicable to other network model.

Other Models
Three Internet Drafts

1. Common functions of Large Scale NAT (aka CGN)
   
   Common Functions of Large Scale NAT (LSN)
   
   draft-nishitani-cgn

2. NAT444 Network Model

   NAT444 with ISP Shared Address
   
   draft-shirasaki-nat444-isp-shared-addr

3. Address

   ISP Shared Address
   
   draft-shirasaki-isp-shared-addr
Network Structure

Internet

v4(G)

v6

v4(G)

v4(G)

v6

Carriers, ISPs, and enterprises can choose their favorites. Carrier, ISP and Enterprise can choose their favorites.

• Shared Address

Common functions of Address Translation

Network Models + NW Specific Technology

Carrier, ISP, and Enterprise can choose their favorites.

v4(P) + v6

Consumer/Enterprise

CPE etc.

Other Models

DS-Lite

LSN (Large Scale NAT)

NAT444
(1) Spirits of Large Scale NAT (aka CGN)

This I-D describes common functions of NAT for Carrier, ISP, Enterprise….

- **High transparency**
  - Minimum changes for upper layer data
- **Fairness of communication for CPEs**
  - Limiting number of ports and TCP sessions per CPE
- **High connectivity**
  - Enabling Hairpinning and UDP/TCP hole punching
- **Tracking particular users (BOTs, spammers, etc)**
  - Logging Function or
  - Fixed port assignment etc.
Definition
It is a network model that uses ISP NAT44 and CPE NAT44.

IPv4 Address between LSN & CPE could be any IPv4 Address.
We propose ISP Shared Address at Intarea.

Supposed to co-exist with IPv6 network.
(3) ISP Shared Address

**Definition**
- Newly defined IPv4 address block
- Only for ISP network.
- Each ISP uses same block.

**Suitable for NAT444 network model.**

**Will be discussed at Intarea this PM.**
Summary and Next Step

Internet

\[ v4(G) \cap v6 \]

\[ v4(P) + v6 \]

\[ \text{CPE etc.} \]

\[ \text{NAT444} \]

\[ \text{LSN (Large Scale NAT)} \]

\[ \text{DS-Lite} \]

\[ \text{Other Models} \]

\[ \text{CPE etc.} \]

\[ \text{Shared Address} \]

\[ \text{Consumer/ Enterprise} \]

\[ \text{Intended to be BEHAVE WG Draft} \]

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\[ \text{To INTAREA} \]