Address space for
Carrier Grade NAT (CGN)
draft-shirasaki-isp-shared-addr-00.txt
related to draft-nishitani-cgn-00.txt

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Background

- Because of IPv4 address “completion”, to allocate global IP address for CPEs is going to be difficult within few years.

- Basic strategy
  - Building NAT by ISP and allocating (newly defined) private IP addresses for CPEs
  - We call this as “Carrier Grade NAT (CGN)”. 
Most conservative access model changes - introducing “Carrier-Grade NAT” -

- FTTH
- ADSL

Before:

- Access Concentrator
- Global v4 address
- CPE With NAT
- Private v4 address
- End Host

After:

- Access Concentrator With NAT
- (newly defined) Private v4 address
- End Host
We need new private space for CGN other than 240/4

- Because we’d like to keep CPE router as is, we can **not** use 240.0.0.0/4 as CGN’s new private space.
  - Simply today’s IPv4 implementation does not work well on 240.0.0.0/4
  - If CPE router firmware can be upgraded, it means that it can be upgraded to IPv6 compatible. Way better.
- “dual stack lite” does not need this but it requires CPE router replacement. This is the pros-and-cons.
- We are discussing this issues in
  - draft-shirasaki-isp-shared-addr-00.txt
defines "ISP Shared Address" to be jointly used among ISPs

It is intended to be assigned between CPE and CGN

This space must not to be advertised to the Internet
ISP with CGN (v4 portion)
The size of the address space is TBD but here is the data

- Size vs ISP Coverage
  - /10 - 49%
  - /9  - 58%
  - /8  - 69%
  - /7  - 85%
  - /6  - 96%
  - /5  - 100%