

# Large-Scale(Carrier Grade) NAT Requirements

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# CGN draft update

- Update(00⇒01) : followed Chairs' recommendations mostly
  - An editor joined to the authors, Thanks !
    - Simon Perreault at Viagenie
  - Changed terminology from LSN to CGN
  - removed some REQs duplicated from other RFCs
  - Added “bulk port allocation” (or “bin”)
- We'd like to have the last-call as soon as possible toward RFC

# Comments and questions

- After update, we have some comments and questions about CGN from ML
  - PCP support
  - Spam filter
  - High Availability
  - Blacklisting for private IP
  - Bandwidth fair-usage
  - Port static allocation
  - Configurable hold-down timer
  - ...

# Policy of CGN draft

- Our goal is only the basic requirements which are **Fairness among the users**

# Dan's comment on the scoping from ML

- The general theme for the document is that the CGN should be "fair".
  - That was the reason for the initial CGN-specific requirement which is that a subscriber be limited to a certain number of IPv4 ports -- to prevent one user from denying service to other legitimate users.
- Dave and I have discussed the organization of the document in the past, and the following two tenets seem pretty valuable in scoping the document:
  - if a requirement is specific to a Carrier Grade NAT, it should be a new requirement in the document. For example, restricting a user to a certain number of ports.
  - if a requirement is not specific to a Carrier Grade NAT, it should not be a new requirement in the document.
    - Instead, the document should reference an existing requirement. For example, the TCP behavior of a CGN can be described by BEHAVE's existing TCP behavior document, RFC5382.
    - For example, hold-down timers is not specific to a CGN (because existing NAPT would have similar or identical requirements), and TCP/25 filtering is not specific to a CGN (as evidenced by ISPs filtering TCP/25 without deploying a CGN).
    - For example, new logging requirements caused by IPv4 address sharing is well-described by other IETF documents which can be cited.

# CGN definition

- Carrier-Grade NAT (CGN) in -01
  - NAT device placed between a subscriber and the Internet in an ISP's network. A CGN translates IP addresses and transport-protocol port numbers in the packets that it forwards across the border between the internal and external realms.
- There are some comments (thanks Mohamed)
  - Do not use “device”. CGN is function.
  - Avoid topology related definitions of CGN
- So, we will change to:
- Carrier-Grade NAT (CGN):
  - NAT-based [RFC2663] Functional Element operated by an administrative entity (e.g., operator) to share the same address among several subscribers. CGN is managed by the administrative entity, not the subscribers.

# Then...

- We will update CGN draft (-02) after this IETF
- And after chairs' check, we want to have last call