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ISP Shared Address
draft-shirasaki-isp-shared-addr-07

Abstract

   This document defines IPv4 ISP Shared Address to be jointly used
   among Internet Service Providers (ISPs). This space is intended to
   be used in NAT444 model which is used during the transition period to
   IPv6.

Status of this Memo

   This Internet-Draft is submitted in full conformance with the
   provisions of BCP 78 and BCP 79.

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   time. It is inappropriate to use Internet-Drafts as reference
   material or to cite them other than as "work in progress."

   This Internet-Draft will expire on July 7, 2012.

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1. Introduction

The only permanent solution of the IPv4 address exhaustion is to
deploy IPv6. Now, just before the exhaustion, it's time to make a
transition to IPv6.

NAT444 model [I-D.shirasaki-nat444] is one of the solutions for
transition to IPv6.

This document defines ISP Shared Address to be used in NAT444 model
[I-D.shirasaki-nat444-isp-shared-addr]. It is supposed to be used
between Customer Premises Equipment (CPE) and Carrier Grade NAT (CGN)
[I-D.ietf-behave-lsn-requirements].

ISP Shared Address is needed until the IPv4 Internet fades out.

2. ISP Shared Address

2.1. Definition

ISP Shared Address is intended to be assigned between CPE and CGN in
a NAT444.

2.2. Details

- Each ISP can use ISP Shared Address without any coordination with
IANA or Internet registries.

- ISP Shared Address can be used by many ISPs.

- ISP has to install CGN to use ISP Shared Address.

- ISP Shared Address must not be used at customers' site or Internet
Exchanges.

- Routing information of ISP Shared Address must not be advertised to
the Internet.

- Reverse DNS queries for this address space must not be sent to root
DNS servers.

- Packets with this space as source address and/or destination
address must be filtered out at the border of each ISP.

- Addresses within this address space should be unique within the
ISP, or the set of ISPs which choose to cooperate over this space so
they may directly communicate with each other in their networks.

[3](#). Size of Address Space

Because the aggregation size of Tokyo area POP is around /10 in
Japan, /10 should be the hard limit of minimum size ISP Shared
Address. We understand this can be determined by further
discussions.

[4](#). Acknowledgements

Thanks for the input and review by Shirou Niinobe, Takeshi Tomochika,
Tomohiro Fujisaki, Dai Nishino, JP address community members, AP
address community members and JPNIC members.

[5](#). IANA Considerations

IANA is to record the allocation of the IPv4 global unicast address
as ISP Shared Address in the IPv4 address registry.

[6](#). Security Considerations

ISP Shared Address is supposed to be used with CGN. The Global IPv4
address that is assigned outside CGN may be used as source address of
'Denial of Service' attack.

[7](#). References

[7.1](#). Normative References

[I-D.ietf-behave-lsn-requirements]
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