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Multicast Addresses for Documentation
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Abstract

This document discusses which multicast addresses should be used for documentation purposes and reserves multicast addresses for such use. Some multicast addresses are derived from AS numbers or unicast addresses. This document also explains how these can be used for documentation purposes.

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Table of Contents

| | |
|---|----|
| 1. Introduction | 3 |
| 2. IPv4 multicast documentation addresses | 4 |
| 2.1. Administratively scoped IPv4 multicast addresses | 4 |
| 2.2. GLOP multicast addresses | 4 |
| 2.3. Unicast prefix based IPv4 multicast addresses | 4 |
| 3. IPv6 multicast documentation addresses | 5 |
| 3.1. Unicast prefix based IPv6 multicast addresses | 5 |
| 3.2. Embedded-RP IPv6 multicast addresses | 5 |
| 4. Security Considerations | 6 |
| 5. IANA Considerations | 7 |
| 6. Acknowledgments | 8 |
| 7. Informative References | 9 |
| Authors' Addresses | 10 |

1. Introduction

It is often useful in documentation, IETF documents, etc., to provide examples containing IP multicast addresses. For documentation where examples of general purpose multicast addresses are needed, one should use multicast addresses that never will be assigned or in actual use. There is a risk that addresses used in examples may accidentally be used. It is then important that the same addresses are not used by other multicast applications or services. It may also be beneficial to filter out such addresses from multicast signalling and multicast data sent to such addresses.

For unicast there are both IPv4 and IPv6 addresses reserved for this purpose, see [RFC5737] and [RFC3849] respectively. This document reserves multicast addresses for this purpose.

There are also some multicast addresses that are derived from AS numbers or unicast addresses. For examples where such addresses are desired, one should derive them from the AS numbers and unicast addresses reserved for documentation purposes. This document also discusses the use of these.

2. IPv4 multicast documentation addresses

The type of multicast addresses most commonly used today, are addresses used for so-called ASM (Any-Source Multicast). For ASM, the IPv4 multicast addresses allocated for documentation purposes are 233.252.0.0 - 233.252.0.255 (233.252.0.0/24).

Another type of multicast is SSM (Source-Specific Multicast). For SSM it is less important which multicast addresses are used, since a host/application joins a channel identified by both source and group. Any source addresses used in SSM examples should be unicast addresses reserved for documentation purposes, see [RFC5737].

Sometimes one wants to give examples where a specific type of address is desired. E.g. for text about multicast scoping, one might want the examples to use addresses that are to be used for administrative scoping. See below for guidance on how to construct specific types of example addresses.

2.1. Administratively scoped IPv4 multicast addresses

Administratively scoped IPv4 multicast addresses [RFC2365] are reserved for scoped multicast. They can be used within a site or an organization. Apart from a small set of scope relative addresses, these addresses are not assigned. There are no specific scoped addresses available for documentation purposes. Except for examples detailing the use of scoped multicast, one should avoid using them.

2.2. GLOP multicast addresses

GLOP [RFC3180] is a method for deriving IPv4 multicast group addresses from 16 bit AS numbers. For examples where GLOP addresses are desired, the addresses should be derived from the AS numbers reserved for documentation use. See [RFC5398].

2.3. Unicast prefix based IPv4 multicast addresses

IPv4 multicast addresses can be derived from IPv4 unicast prefixes, see [RFC6034]. For examples where this type of addresses are desired, the addresses should be derived from the unicast addresses reserved for documentation purposes, see [RFC5737].

3. IPv6 multicast documentation addresses

The type of multicast addresses most commonly used today, are addresses used for so-called ASM (Any-Source Multicast). For ASM, the IPv6 multicast addresses allocated for documentation purposes are TBD.

Another type of multicast is SSM (Source-Specific Multicast). For SSM it is less important which multicast addresses are used, since a host/application joins a channel identified by both source and group. Any source addresses used in SSM examples should be unicast addresses reserved for documentation purposes, see [RFC3849].

Sometimes one wants to give examples where a specific type of address is desired. E.g. for text about multicast scoping, one might want the examples to use addresses that are to be used for administrative scoping. See below for guidance on how to construct specific types of example addresses.

3.1. Unicast prefix based IPv6 multicast addresses

IPv6 multicast addresses can be derived from IPv6 unicast prefixes, see [RFC3306]. For examples where this type of addresses is desired, the addresses should be derived from the unicast addresses reserved for documentation purposes, see [RFC3849].

3.2. Embedded-RP IPv6 multicast addresses

There is a type of IPv6 multicast addresses called Embedded-RP addresses where the IPv6 address of a Rendezvous-Point is embedded inside the multicast address, see [RFC3956]. For examples where this type of addresses is desired, the addresses should be derived from the unicast addresses reserved for documentation purposes, see see [RFC3849].

4. Security Considerations

The use of specific multicast addresses for documentation purposes has no impact on security.

5. IANA Considerations

IANA is requested to assign "variable scope" IPv6 multicast addresses for documentation purposes. This should be a /96 prefix of the form FF0X:...

6. Acknowledgments

The authors thank Roberta Maglione for providing comments on this document.

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