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Category   Best Current Practices
                                                        April, 2001

IANA Guidelines for IPv4 Multicast Address Assignments
<draft-ietf-mboned-iana-ipv4-mcast-guidelines-02.txt>

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Internet Draft draft-ietf-mboned-iana-IPv4-mcast-guidelines-02.txt April, 2001

2. Copyright Notice

3. Abstract

   This memo provides guidance for the IANA in assigning IPv4 multicast
   addresses.

4. Introduction

   The Internet Assigned Numbers Authority (IANA) (www.iana.org) is
   charged with allocating parameter values for fields in protocols
   which have been designed, created or are maintained by the Internet
   Engineering Task Force (IETF). RFC 2780 [RFC2780] provides the IANA
   guidance in the assignment of parameters for fields in newly
   developed protocols. This memo expands on section 4.4.2 of RFC 2780
   and attempts to codify existing IANA practice used in the assignment
   IPv4 multicast addresses.

   The terms "Specification Required", "Expert Review", "IESG Approval",
   "IETF Consensus", and "Standards Action", are used in this memo to
   refer to the processes described in [RFC2434]. The keywords MUST,
   MUST NOT, MAY, OPTIONAL, REQUIRED, RECOMMENDED, SHALL, SHALL NOT,
   SHOULD, SHOULD NOT are to be interpreted as defined in RFC 2119
   [RFC2119].

   In general, due to the relatively small size of the IPv4 multicast
   addresses space, further assignment of IPv4 multicast address space
   is recommended only in limited circumstances. Specifically, the IANA
   should only assign addresses in those cases where the dynamic
   selection (SDP/SAP), GLOP, SSM or Administratively Scoped address
   spaces cannot be used. The guidelines described below are reflected
   in http://www.iana.org/assignments/multicast-addresses.

5. Definition of Current Assignment Practice

   Unlike IPv4 unicast address assignment, where blocks of addresses are
   delegated to regional registries, IPv4 multicast addresses are
   assigned directly by the IANA. Current assignments appear as follows
   [IANA]:

   224.0.0.0   - 224.0.0.255   (224.0.0/24) Local Network Control Block
   224.0.1.0   - 224.0.1.255   (224.0.1/24) Internetwork Control Block
   224.0.2.0   - 224.0.255.0   AD-HOC Block
   224.1.0.0   - 224.1.255.255   (224.1/16)   ST Multicast Groups
   224.2.0.0   - 224.2.255.255   (224.2/16)   SDP/SAP Block
   224.252.0.0 - 224.255.255.255   DIS Transient Block
   225.0.0.0   - 225.255.255.255 (225/8)   MALLOC Block
   226.0.0.0   - 231.255.255.255   RESERVED
   232.0.0.0   - 232.255.255.255 (232/8)   Source Specific Multicast Block
   233.0.0.0   - 233.255.255.255 (233/8)   GLOP Block
   234.0.0.0   - 238.255.255.255   RESERVED
   239.0.0.0   - 239.255.255.255 (239/8)   Administratively Scoped Block

   The IANA generally assigns addresses from the Local Network Control,
   Internetwork Control, and AD-HOC blocks. Assignment guidelines for
   each of these blocks, as well as for the MALLOC, Source Specific
   Multicast, GLOP and Administratively Scoped Blocks, are described
   below.

6. Local Network Control Block (224.0.0/24)

   Addresses in the Local Network Control block are used for protocol
   control traffic that is not forwarded off link. Examples of this type
   of use include OSPFIGP All Routers (224.0.0.5) [RFC2328].

6.1. Assignment Guidelines

Assignment of addresses in the Local Network Configuration Block
SHOULD BE be accompanied by a specification ("Specification
Required"). This specification will typically take the form of an
internet draft or RFC.

7. Internetwork Control Block (224.0.1/24)

   Addresses in the Internetwork Control block are used for protocol
   control that must be forwarded through the Internet. Examples include
   224.0.1.1 (NTP [RFC2030]) and 224.0.1.68 (mdhcpdisover [RFC2730]).

7.1. Assignment Guidelines

   Assignment of addresses in the Internetwork Control block SHOULD BE
   accompanied by a specification ("Specification Required"). This
   specification will typically take the form of an internet draft or
   RFC.

8. AD-HOC Block (224.0.2.0/24 - 224.0.255.0/24)

   Addresses in the AD-HOC block have traditionally been assigned for
   those applications that don't fit in either the Local or Internetwork
   Control blocks. These addresses are globally routed and are typically
   used by applications that require small blocks of addressing (e.g.,
   less than a /24).

8.1. Assignment Guidelines

   IANA SHOULD NOT assign addressing in the AD-HOC Block unless it is a
   special circumstance accompanied by a specification ("Specification

Required"). This specification will typically take the form of an
Internet-Draft or RFC.

9. SDP/SAP Block (224.2/16)

   Addresses in the SDP/SAP block are used by applications that receive
   addresses through the Session Announcement Protocol [RFC2974] for use
   via applications like the session directory tool (such as SDR [SDR]).

9.1. Assignment Guidelines

   Since addresses in the SDP/SAP block are chosen randomly from the
   range of addresses not already in use [RFC2974], no IANA assignment
   policy is required. Note that while no additional IANA assignment is
   required, addresses in the SDP/SAP block are explicitly for use by
   SDP/SAP and MUST NOT be used for other purposes.

10. MALLOC Block (225/8)

   Addresses in the MALLOC block are dynamically assigned by the MALLOC
   suite of protocols [RFC2908]. This assignment is temporary and MUST
   BE reviewed annually.

10.1. Assignment Guidelines

   Since addresses in the MALLOC block are chosen by elements of the
   MALLOC architecture, no IANA assignment policy is required. Note that
   while no additional IANA assignment is required, addresses in the
   MALLOC block are explicitly for assignment by MALLOC servers and MUST
   NOT be used for other purposes.

11. Source Specific Multicast Block (232/8)

   The Source Specific Multicast (SSM) is an extension of IP Multicast
   in which traffic is forwarded to receivers from only those multicast
   sources for which the receivers have explicitly expressed interest,
   and is primarily targeted at one-to-many (broadcast) applications.

11.1. Assignment Guidelines

   Because the SSM model essentially makes the entire multicast address
   space local to the host, no IANA assignment policy is required. Note,
   however, that while no additional IANA assignment is required,
   addresses in the SSM block are explicitly for use by SSM and MUST NOT
   be used for other purposes.

12. GLOP Block (233/8)

   Addresses in the GLOP block are globally scoped statically assigned
   addresses. The assignment is made by mapping a domain's autonomous
   system number into the middle two octets of 233.X.Y.0/24. The mapping
   and assignment is defined in [RFC2770].

12.1. Assignment Guidelines

   Because addresses in the GLOP block are algorithmically preassigned,
   no IANA assignment policy is required. Note that while no additional
   IANA assignment is required, addresses in the GLOP block are assigned
   for use as defined in RFC 2770 and MUST NOT be used for other
   purposes.

13. Administratively Scoped Address Block (239/8)

   Addresses in the Administratively Scoped Address block are for local
   use within a domain and are described in [RFC2365].

13.1. Assignment Guidelines

   Since addresses in this block are local to a domain, no IANA
   assignment policy is required.

13.1.1. Relative Offsets

   The relative offsets [RFC2365] are used to ensure that a service can

be located independent of the extent of the enclosing scope (see [RFC 2770] for details). Since there are only 256 such offsets, the IANA should only assign a relative offset to a protocol that provides an infra-structure supporting service. Examples of such services include the Session Announcement Protocol [RFC2974]. See [IANA] for the current set of assignments.

14. Annual Review

Given the dynamic nature of IPv4 multicast and its associated infra-structure, and the previously undocumented IPv4 multicast address assignment guidelines, the IANA should conduct an annual review of currently assigned addresses.

14.1. Address Reclamation

During the review described above, addresses that were mis-assigned should, where possible, be reclaimed or reassigned.

The IANA should also review assignments in the AD-HOC, DIS Transient Groups, and ST Multicast Groups blocks and reclaim those addresses that are not in use on the global Internet (i.e, those applications which can use SSM, GLOP, or Administratively Scoped addressing, or are not globally routed).

15. Use of IANA Reserved Addresses

Applications MUST NOT use addressing in the IANA reserved blocks.

16. Appeals Process

Appleals of this process are to be handled in accordance with Section

[6.5 of RFC 2026](#) [[RFC2026](#)].

17. Security Considerations

   The assignment guidelines described in this document do not alter the
   security properties of either the Any Source or Source Specific
   multicast service models.

18. Acknowledgments

   The authors would like to thank Joe St. Sauver, John Meylor, and
   Randy Bush for their constructive feedback and comments.

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[21](21). Full Copyright Statement