

Extended Assignments in 233/8

Status of this Memo

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Abstract

This memo provides describes the mapping of the GLOP addresses corresponding to the private AS space.

1. Introduction

RFC 2770 [RFC2770] describes an experimental policy for use of the class D address space using 233/8. The technique described there maps 16 bits of Autonomous System number (AS) into the middle two octets of 233/8 to yield a /24. While this technique has been successful, the assignments are inefficient in those cases in which a /24 is too small or the user doesn't have its own AS.

RFC 1930 [RFC1930] defines the private AS space to be 64512 through 65535. This memo expands on RFC 2770 to allow routing registries to assign multicast addresses from the GLOP space corresponding to the RFC 1930 private AS space. This space will be referred to as the EGLOP (Extended GLOP) address space.

This memo is a product of the Multicast Deployment Working Group (MBONED) in the Operations and Management Area of the Internet Engineering Task Force. Submit comments to <mboned@ns.uoregon.edu> or the authors.

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].

2. Overview

<http://www.iana.org/assignments/multicast-addresses> defines a mechanism for assignment of multicast addresses that are generally for use in network control applications. It is envisioned that those addresses assigned from the ELOOP space (233.252.0.0 - 233.255.255.255) will be used by applications that cannot use Administratively Scoped Addressing [RFC2365], GLOOP Addressing [RFC2770], or Source Specific Multicast (Source Specific Multicast, or 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).

3. Assignment Criteria

Globally scoped IPv4 multicast addresses in the ELOOP space are assigned by a Regional Registry (RIR). An applicant MUST, as per [IANA], show that the request cannot be satisfied using Administratively Scoped addressing [RFC2365], GLOOP addressing [RFC2770], or SSM. The fine-grained assignment policy is left to the assigning RIR.

4. Security Considerations

The assignment scheme described in this document does not effect the security properties of the the single source or any source multicast service models.

5. Acknowledgments

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7. References

- [IANA] <http://www.iana.org/assignments/multicast-addresses>
- [RFC1930] Hawkinson J. and T. Bates, "Guidelines for creation, selection, and registration of an Autonomous System (AS)", RFC 1930, March 1996.
- [RFC2026] Bradner, S., "The Internet Standards Process -- Revision 3", BCP 9, RFC 2026, October 1996.
- [RFC2119] Bradner, S., "Key words for use in RFCs to Indicate Requirement Levels", BCP 14, RFC 2119, March 1997.
- [RFC2365] Meyer, D., "Administratively Scoped IP Multicast", RFC 2365, July 1998.
- [RFC2770] Meyer, D. and P. Lothberg, "GLOP Addressing in 233/8", RFC 2770, February 2000.
- [RFC2780] Bradner, S. and V. Paxson, "IANA Allocation Guidelines For Values In the Internet Protocol and Related Headers", BCP 37, RFC 2780, March 2000.

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