MBONED Working Group   David Meyer
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                                              Peter Lothberg
                                              Sprint
Category   Experimental
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                   Static Allocations in 233/8

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   This document is an Internet-Draft and is in full conformance with
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2. Abstract

   This describes an experimental policy for use of the class D address
   space using 233/8 as the experimental statically assigned subset of
   the class D address space. This new experimental allocation is in
   addition to those described on [IANA] (e.g. [RFC2365]).

   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.

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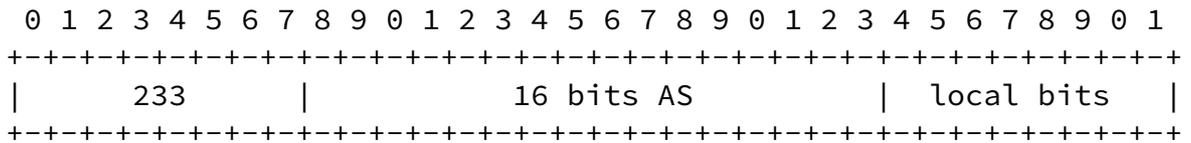3. Copyright Notice

4. Problem Statement

   Multicast addresses have traditionally been allocated by a dynamic
   mechanism such as SDR [SAP]. However, many current multicast
   deployment models are not amenable to dynamic allocation. For
   example, many content aggregators require group addresses which are
   fixed on a time scale which is not amenable to allocation by a
   mechanism such as described in [SAP]. Perhaps more seriously, since
   there isn't general consensus by providers, content aggregators, or
   application writers as to the allocation mechanism, the Internet is
   left without a coherent multicast address allocation scheme.

   The MALLOC working group is looking at a specific strategy for global
   multicast address allocation [MADCAP, MASC]. This experiment will
   proceed in parallel. MADCAP may be employed within AS's, if so
   desired.

   This document proposes an experimental method of statically
   allocating multicast addresses with global scope. This experiment
   will last for a period of one year, but may be extended as described
   in section 8.

5. Address Space

   For purposes of the experiment described here, the IANA should
   allocate 233/8. The remaining 24 bits will be administered in a
   manner similar to that described in RFC1797:

        0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1
       +-+
       | 233 | 16 bits AS | local bits |
       +-+

5.1. Example

   Consider, for example, AS 5662. Written in binary, left padded with
   0s, we get 0001011000011110. Mapping the high order octet to the
   second octet of the address, and the low order octet to the third
   octet, we get 233.22.30/24.

6. Allocation

   As mentioned above, the allocation proposed here follows the RFC1797

(case 1) allocation scheme, modified as follows: the high order octet
has the value 233, and the next 16 bits are a previously assigned
Autonomous System number (AS), as registered by a network registry
and listed in the RWhois database system. This allows a single /24
per AS.

As was the case with RFC1797, using the AS number in this way allows
the experiment to get underway quickly in that it automatically
allocates some addresses to each service provider and does not
require a registration step.

6.1. Private AS Space

The address space mapped to the private AS space (as defined in
[RFC1930], is reserved for future allocation.

7. Security Considerations

The approach described here may have the effect of reduced exposure
to denial of space attacks based on dynamic allocation. Further,
since dynamic assignment does not cross domain boundaries, well known
intra-domain security techniques can be applied.

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8. IANA Considerations

IANA should allocate 233/8 for experimental assignments. This
assignment should timeout one year after the assignment is made. The
assignment may be renewed at that time. It should be noted that the
experiment described here is in the same spirit the experiment
described in [RFC1797].

9. Acknowledgments

This idea originated with Peter Lothberg's idea that we use the same
allocation (AS based) as described in RFC 1797 in the class D address
space. Randy Bush and Mark Handley contributed many insightful
comments.

10. References

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11. Author's Address

   David Meyer
   Cisco Systems, Inc.
   170 W. Tasman Drive
   San Jose, CA 95134-1706
   United States
   EMail: dmm@cisco.com

   Peter Lothberg
   Sprint
   VARESA0104
   12502 Sunrise Valley Drive
   Reston VA, 20196
   Email: roll@sprint.net

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