Network Working Group
Request for Comments: 4773
Category: Informational

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APNIC

December 2006

Administration of the IANA Special Purpose IPv6 Address Block

Status of This Memo

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Abstract

This is a direction to IANA concerning the management of the IANA Special Purpose IPv6 address assignment registry.

1. Introduction

This is a direction to IANA concerning the management of the IANA Special Purpose IPv6 address assignment registry.

2. IANA IPv6 Special Purpose Address Block

[RFC2928] specified the assignment of the IPv6 address prefix to IANA. The rationale for this allocation is:

> "The block of Sub-TLA IDs assigned to the IANA (i.e., 2001:0000::/29 - 2001:01F8::/29) is for assignment for testing and experimental usage to support activities such as the 6bone, and for new approaches like exchanges." [RFC2928]

This address allocation to IANA was intended to support testing and experimental activities. A more general view of the roles of IANA with respect to address allocation functions is documented in [RFC2860]:

> "4.3. [...] Note that [...] (b) assignments of specialised address blocks (such as multicast or anycast blocks), and (c) experimental assignments are not considered to be policy issues, and shall remain subject to the provisions of this Section 4. (For purposes of this MOU, the term "assignments" includes allocations.)" [RFC2860]

The reference to section 4 here is to the general technical work for the IANA:

> "4.1. The IANA will assign and register Internet protocol parameters only as directed by the criteria and procedures specified in RFCs, including Proposed, Draft, and full Internet Standards and Best Current Practice documents, and any other RFC that calls for IANA assignment." [RFC2860]

This document directs IANA to undertake designation of special purpose address blocks within the purview of direct assignments by the IANA under the terms of the assignment criteria specified in RFC 2928.

This document directs IANA to open a Special Purpose IPv6 address registry for the management of these IANA-designated address blocks. Special Purpose registrations to be made from this registry include addresses for experimental purposes, as described in [RFC2928], and other special purpose cases, as documented in IESG-reviewed published RFCs, according to the provisions described in section 4.1 of [RFC2860].

3. IANA Considerations

IANA maintains an "IANA IPv6 Address Special Purpose Registry". The registry records current IANA address designations from the IANA-managed Special Purpose IPv6 address pool.

This recommendation concerns the management of the address pool assigned by the IETF to the IANA in July 1999 by [RFC2928], namely 2001:0000::/23. Following the policies outlined in [RFC2434], further assignments of address space to IANA for subsequent designation of address prefixes for the purposes listed here shall be undertaken only through an IETF Consensus action. Such directions for assignments of address space to augment the IANA-managed special purpose address pool should, in the general course of events, be consistent with prevailing IANA IPv6 address management policies [IPv6-Policies].

IANA may undertake IPv6 address designations in support of special purposes as requested in "IANA Considerations" sections in IESG-reviewed RFCs, where an address is requested with an intended use of the designated address block for the purpose of testing or experimental usage activities initiated by IETF, or for specialised use of the address block in a context (e.g., anycast) associated with an Internet Standards track protocol.

The IANA IPv6 Special Purpose Address Registry records, for all current address designations undertaken by IANA:

1. The designated address prefix.

2. The RFC that called for the IANA address designation.

3. The date the designation was made.

4. The date the use designation is to be terminated (if specified as a limited-use designation).

5. The nature of the purpose of the designated address (e.g., unicast experiment or protocol service anycast).

6. For experimental unicast applications and otherwise as appropriate, the registry will also identify the entity and related contact details to whom the address designation has been made.

7. The registry will also note, for each designation, the intended routing scope of the address, indicating whether the address is intended to be routable only in scoped, local, or private contexts, or whether the address prefix is intended to be routed globally.

8. The date in the IANA registry is the date of the IANA action, i.e., the day IANA records the allocation.

The IANA registry notes, as a general comment, that address prefixes listed in the Special Purpose Address Registry are not guaranteed routability in any particular local or global context.

IANA will not maintain further sub-registries for any special purpose address block designated according to this direction.

4. Security Considerations

Security of the Internet’s routing system relies on the ability to authenticate an assertion of unique control of an address block. Measures to authenticate such assertions rely on validation that the address block forms part of an existing allocated address block, and that there is a trustable and unique reference in the IANA address registries.

The proposed registry is intended to provide an authoritative source of information regarding the currency and intended purpose of special use IPv6 address blocks that are designated from the IANA-

administered Special Use registry. This is a small step towards the creation of a comprehensive registry framework that can be used as a trust point for commencing a chain of address validation. Consideration should be given to IANA registry publication formats that are machine parseable, and also the use of file signatures and associated certificate mechanisms to allow applications to confirm that the registry contents are current, and that they have been published by the IANA.

5. Acknowledgements

The document was prepared with the assistance of Leslie Daigle, Brian Haberman, Bob Hinden, David Kessens, Kurt Lindqvist, Thomas Narten, and Paul Wilson.

6. Informative References

[IPv6-Policies] IANA, "IPv6 Allocation and Assignment Policy", June 2002.

[RFC2434] Narten, T. and H. Alvestrand, "Guidelines for Writing an IANA Considerations Section in RFCs", BCP 26, RFC 2434, October 1998.

[RFC2860] Carpenter, B., Baker, F., and M. Roberts, "Memorandum of Understanding Concerning the Technical Work of the Internet Assigned Numbers Authority", RFC 2860, June 2000.

[RFC2928] Hinden, R., Deering, S., Fink, R., and T. Hain, "Initial IPv6 Sub-TLA ID Assignments", RFC 2928, September 2000.

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Acknowledgement

Funding for the RFC Editor function is currently provided by the Internet Society.