Internet Numbers Registries
<draft-housley-number-registries-01.txt>

Abstract

   RFC 7020 provides information about the Internet Numbers Registry
   System and how it is used in the distribution of autonomous system
   (AS) numbers and globally unique unicast Internet Protocol (IP)
   address space.

   This companion document identifies the IANA registries that are part
   of the Internet Numbers Registry System at this time.

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[1](#). Introduction

   [RFC 7020](RFC 7020) [[RFC7020](RFC7020)] provides information about the Internet Numbers
   Registry System and how it is used in the distribution of autonomous
   system (AS) numbers and globally unique unicast Internet Protocol
   (IP) address space.

   This companion document identifies the IANA registries that are part
   of the Internet Numbers Registry System at this time.

[2](#). Internet Numbers Registries

   Portions of three IANA registries are associated with the Internet
   Numbers Registry System: AS Numbers, IPv4 Addresses, and IPv6
   Addresses.

[2.1](#). Autonomous System Numbers

   For historical reasons, there are 16-bit AS numbers and 32-bit AS
   numbers. However, the 16-bit AS numbers are really just zero through
   65535 of the 32-bit AS number space.

   The allocation and registration functions for all non-reserved AS
   numbers are handled by the Internet Numbers Registry System in
   accordance with policies developed by the Regional Internet
   Registries (RIRs).

   Reservations of special-purpose AS Numbers are made through Internet
   Standards actions.

At this time, the special-purpose AS numbers are:

```
AS Numbers              Reason for Reservation
---------------------   ---------------------------------------------
0                       Reserved by [draft-ietf-idr-as0]
23456                   AS_TRANS; reserved by [RFC6793]
64496-64511             For documentation and sample code; reserved
                           by [RFC5398]
64512-65534             For private use; reserved by [RFC6996]
65535                   Reserved by [RFC1930]
65536-65551             For documentation and sample code; reserved
                           by [RFC5398]
4200000000-4294967294   For private use; reserved by [RFC6996]
4294967295              Reserved
```

2.2. IPv4 Addresses

The allocation and registration functions for all non-reserved
globally unique unicast IPv4 unicast addresses are handled by the
Internet Numbers Registry System in accordance with policies
developed by the Regional Internet Registries (RIRs).

Reservation of special-purpose IPv4 addresses are made through
Internet Standards actions. Reserved IPv4 unicast addresses are
registered in the Special Purpose IP address registries [RFC6890].

At this time, the special-purpose IPv4 unicast addresses are:

```
IPv4 Addresses    Reason for Reservation
---------------   ------------------------------------------------
0/8               For self-identification; reserved by [RFC1122]
10/8              For private use; reserved by [RFC1918]
100.64/10         For shared address space; reserved by [RFC6598]
127/8             For loopback; reserved by [RFC1122]
169.254/16        For link local; reserved by [RFC3927]
172.16/12         For private use; reserved by [RFC1918]
192.0.0/24        For IETF protocol assignments; reserved
                     by [RFC6890]
192.0.2/24        For documentation (TEST-NET-1); reserved
                     by [RFC5737]
192.88.99/24      For 6to4 relay anycast; reserved by [RFC3068]
192.168/16        For private use; reserved by [RFC1918]
198.18/15         For benchmarking; reserved by [RFC2544]
198.51.100/24     For documentation (TEST-NET-2); reserved
                     by [RFC5737]
203.0.113/24      For documentation (TEST-NET-3); reserved
                     by [RFC5737]
240/4             Reserved by [RFC1112]
```

2.3. IPv6 Addresses

The vast bulk of the IPv6 address space (approximately 7/8ths of the whole address space) is reserved by the IETF, with the expectation that further assignment of globally unique unicast address space will be made from this reserved space in accordance with future needs.

The allocation and registration functions for all non-reserved globally unique unicast IPv6 unicast addresses are handled by the Internet Numbers Registry System in accordance with policies developed by the Regional Internet Registries (RIRs).

Reservation of special-purpose IPv6 addresses are made through Internet Standards actions. Reserved IPv6 unicast addresses are registered in the Special Purpose IP address Registries [RFC6890].

At this time, the special-purpose IPv6 addresses are:

```
IPv6 Addresses  Reason for Reservation
--------------  ----------------------------------------------------
0::/8           For unspecified, loopback, IPv4-compatible, IPv4-
                  mapped, link-local, site-local, and addresses
                  assigned by the IETF; reserved by [RFC4291]
100::/64        For discard-only addresses; reserved by [RFC6666]
2001:0::/23     For IETF protocol assignments; reserved by [RFC2928]
2001:db8::/32   For documentation; reserved by [RFC3849]
2002::/16       For 6to4; reserved by [RFC3056]
```

3. IANA Considerations

"IETF Review" as defined in [RFC5226] is required to reserve special-purpose AS numbers or IPv4 addresses or IPv6 addresses. These reservations are recorded in the relevant IANA registry with a Special Purpose designation, referencing the IESG-approved RFC that documents the reservation.

IANA may designate special-purpose AS numbers or IPv4 addresses or IPv6 addresses to support testing, IETF experimental activities, or other special uses (e.g., anycast) associated with a standards-track protocol.

4. Security Considerations

This document identifies the IANA registries that are part of the Internet Numbers Registry System at this time. It does not change the security posture of the Internet in any way.

5. References

5.1. Normative References

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Acknowledgements

   Many thanks to Jari Arkko, John Curran and Geoff Huston for their
   insightful review and comment.

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