

Inter-Domain Routing
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**AS Number Reservation for Documentation Use
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Abstract

To reduce the likelihood of conflict and confusion when relating documented examples to deployed systems, two blocks of Autonomous System numbers (ASNs) are reserved for use in examples in RFCs, books, documentation, and the like. This document describes the reservation of two blocks of ASNs as reserved numbers for use in documentation.

1. Introduction

To reduce the likelihood of conflict and confusion when relating documented examples to deployed systems, two blocks of Autonomous

System numbers (ASNs) are reserved for use in examples in RFCs, books, documentation, and the like. This document describes the reservation of two blocks of ASNs as reserved numbers for use in documentation.

The problems such conflicts may cause have already been encountered with IPv4 addresses where literal use of documented examples in a production environment causes address and routing conflicts with existing services. Since private use ASNs already have a context of use in deployed networks, these ASNs cannot be used in many example situations. In making an explicit allocation of a set of AS numbers reserved for documentation use, it is intended that any such operational problems may be avoided in the future.

Similar considerations have been applied to IPv4 addresses [[IANA.IPv4](#)], IPv6 addresses [[RFC3849](#)], and domain names [[RFC2606](#)], and reservations have been made for similar purposes.

2. ASNs for Documentation Use

To allow documentation to accurately describe deployment examples, the use of public or private-use AS numbers is inappropriate, and a reserved block of AS numbers is required. This ensures that documentation does not clash with public or private use AS numbers in deployed networks, and mitigates the risks to operational integrity of the network through inappropriate use of documentation to perform literal configuration of routing elements on production systems.

To allow for examples relating to the transition to use of 32-bit AS numbers to be correctly described a reservation of two blocks of AS numbers is proposed in this document. One reserved block of 16 contiguous AS numbers is to lie in the range of numbers that can be expressed as a 16-bit AS number value (i.e. values less than 65536), and a second reserved block of 16 contiguous AS numbers is to lie in the range of numbers that can only be expressed as 32-bit AS numbers (values greater than 65535).

3. Operational Implications

This assignment implies that BGP operational configurations should not peer with neighboring ASes that are numbered from this reserved AS number set.

4. IANA Considerations

[Note to IANA, not for publication: The IANA may wish to consider reserving the AS numbers 64496 - 64511 and 65536-65551 (1.0 - 1.15 using "asdot" notation) for this purpose.]

IANA is requested to reserve a contiguous block of 16 Autonomous System numbers from the unallocated number range within the "16-bit" number set, 1 - 64512, and to reserve a contiguous block of 16 Autonomous System numbers from the "32-bit" number set, 65536 - 4294967294, and documentation this reservation in the IANA AS Number Registry [[IANA.AS](#)].

5. Security Considerations

AS number reservations do not have any direct impact on Internet infrastructure security.

6. Acknowledgements

The author acknowledges the work of Tomoya Yoshida, Gaurab Upadhaya and Philip Smith in authoring a policy proposal that was submitted to the APNIC Policy Process in 2008 relating to the reservation of AS numbers for documentation purposes.

7. Informative References

[IANA.AS] IANA, "Autonomous System (AS) Numbers", Sep 2008, <<http://www.iana.org/assignments/as-numbers/>>.

[IANA.IPv4] IANA, "IPv4 Global Unicast Address Assignments", Sep 2008, <<http://www.iana.org/assignments/ipv4-address-space/>>.

[RFC2606] Eastlake, D. and A. Panitz, "Reserved Top Level DNS Names", [BCP 32](#), [RFC 2606](#), June 1999.

[RFC3849] Huston, G., Lord, A., and P. Smith, "IPv6 Address Prefix Reserved for Documentation", [RFC 3849](#), July 2004.

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