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IPv6 Address Prefix Reserved for Documentation

Status of this Memo

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Abstract

To reduce the likelihood of conflict and confusion when relating documented examples to deployed systems, an IPv6 unicast address prefix is reserved for use in examples in RFCs, books, documentation, and the like. Since site-local and link-local unicast addresses have special meaning in IPv6, these addresses cannot be used in many example situations. The document describes the use of the IPv6 address prefix 2001:DB8::/32 as a reserved prefix for use in documentation.

1. Introduction

The address architecture for IPv6 [1] does not specifically allocate an IPv6 address prefix for use for documentation purposes. Documentation material is currently using address prefixes drawn from address blocks already allocated or assigned to existing organizations or to well known ISPs, or drawn from the currently unallocated address pool. Such use conflicts with existing or future allocations or assignments of IPv6 address space.

The problems such conflicts may cause have already been encountered with IPv4 where literal use of documented examples in a production environment causes address and routing conflicts with existing services. In making an explicit allocation of a documentation address prefix, it is intended that such operational problems may be avoided for IPv6.

Similar, but different, discussion also applies to top level domain names and some have been reserved for similar purposes [2].

2. Documentation IPv6 Address Prefix

To allow documentation to accurately describe deployment examples, the use of site local or link local addresses is inappropriate, and a unicast address block is required. All IPv6 unicast address space is currently marked as reserved, unassigned or has been assigned to the Internet Assigned Numbers Authority (IANA) for further redistribution to the Regional Internet Registries (RIRs) [1], but no unicast address space has been specifically nominated for the purposes of use in documented examples.

Following acceptance within the Asia Pacific regional addressing community of a proposal for a block of IPv6 address space to be reserved for documentation purposes, the Asia Pacific Network Information Centre (APNIC) allocated a unicast address prefix for documentation purposes. The address block is within the range of a conventional allocation size, so that documentation can accurately match deployment scenarios.

The documentation prefix described in this memo can also be used to generate multicast addresses for documentation, using the Unicast prefix-based proposal [3]. Representing other kinds of multicast addresses in documentation is outside the scope of this memo.

The prefix allocated for documentation purposes is 2001:DB8::/32

3. Operational Implications

This assignment implies that IPv6 network operators should add this address prefix to the list of non-routeable IPv6 address space, and if packet filters are deployed, then this address prefix should be added to packet filters.

This is not a local-use address prefix, and the filters may be used in both local and public contexts.

4. IANA Considerations

IANA is to record the allocation of the IPv6 global unicast address prefix 2001:DB8::/32 as a documentation-only prefix in the IPv6 address registry. No end party is to be assigned this address.

5. Security Considerations

IPv6 addressing documents do not have any direct impact on Internet infrastructure security.

6. Acknowledgements

The authors acknowledge the work of Marc Blanchet, assisted by Alain Durand, Robert Elz, Bob Fink, and Dave Thaler, in authoring a previous proposal for a V6 documentation prefix.

7. References

7.1. Normative References

[1] Hinden, R. and S. Deering, "Internet Protocol Version 6 (IPv6) Addressing Architecture", RFC 3513, April 2003.

7.2. Informative References

[2] Eastlake 3rd, D. and A. Panitz, "Reserved Top Level DNS Names", BCP 32, RFC 2606, June 1999.

[3] Haberman, B. and D. Thaler, "Unicast-Prefix-based IPv6 Multicast Addresses", RFC 3306, August 2002.

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