

Network Working Group  
Request for Comments: 3849  
Category: Informational

G. Huston  
Telstra  
A. Lord  
APNIC  
P. Smith  
Cisco  
July 2004

## IPv6 Address Prefix Reserved for Documentation

### Status of this Memo

This memo provides information for the Internet community. It does not specify an Internet standard of any kind. Distribution of this memo is unlimited.

### Copyright Notice

Copyright (C) The Internet Society (2004).

### 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.

## Authors' Addresses

Geoff Huston  
Telstra

EEmail: gih@apnic.net

Anne Lord  
Asia Pacific Network Information Centre

EEmail: anne@apnic.net

Philip Smith  
Cisco Systems

EEmail: pfs@cisco.com

## Full Copyright Statement

Copyright (C) The Internet Society (2004). This document is subject to the rights, licenses and restrictions contained in BCP 78, and except as set forth therein, the authors retain all their rights.

This document and the information contained herein are provided on an "AS IS" basis and THE CONTRIBUTOR, THE ORGANIZATION HE/SHE REPRESENTS OR IS SPONSORED BY (IF ANY), THE INTERNET SOCIETY AND THE INTERNET ENGINEERING TASK FORCE DISCLAIM ALL WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY WARRANTY THAT THE USE OF THE INFORMATION HEREIN WILL NOT INFRINGE ANY RIGHTS OR ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

## Intellectual Property

The IETF takes no position regarding the validity or scope of any Intellectual Property Rights or other rights that might be claimed to pertain to the implementation or use of the technology described in this document or the extent to which any license under such rights might or might not be available; nor does it represent that it has made any independent effort to identify any such rights. Information on the procedures with respect to rights in RFC documents can be found in BCP 78 and BCP 79.

Copies of IPR disclosures made to the IETF Secretariat and any assurances of licenses to be made available, or the result of an attempt made to obtain a general license or permission for the use of such proprietary rights by implementers or users of this specification can be obtained from the IETF on-line IPR repository at <http://www.ietf.org/ipr>.

The IETF invites any interested party to bring to its attention any copyrights, patents or patent applications, or other proprietary rights that may cover technology that may be required to implement this standard. Please address the information to the IETF at [ietf-ipr@ietf.org](mailto:ietf-ipr@ietf.org).

## Acknowledgement

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