

Network Working Group  
Request for Comments: 2471  
Obsoletes: 1897  
Category: Experimental

R. Hinden  
Nokia  
R. Fink  
LBNL  
J. Postel  
ISI  
December 1998

## IPv6 Testing Address Allocation

### Status of this Memo

This memo defines an Experimental Protocol for the Internet community. It does not specify an Internet standard of any kind. Discussion and suggestions for improvement are requested. Distribution of this memo is unlimited.

### Copyright Notice

Copyright (C) The Internet Society (1998). All Rights Reserved.

### 1.0 Introduction

This document describes an allocation plan for IPv6 addresses to be used in testing IPv6 prototype software. These addresses are temporary and will be reclaimed in the future. Any IPv6 system using these addresses will have to renumber at some time in the future. These addresses will not to be routable in the Internet other than for IPv6 testing.

The address format for the IPv6 test address is consistent with the "Aggregatable Global Unicast Address Allocation" [AGGR] and "TLA and NLA Assignment Rules" [TLAASN].

This document is intended to replace RFC 1897 "IPv6 Testing Address Allocation", January 1996. RFC 1897 will become historic.

The addresses described in this document are consistent with the IPv6 Addressing Architecture [ARCH]. They may be assigned to nodes manually, with IPv6 Auto Address Allocation [AUTO], or with DHCP for IPv6 [DHCPv6].

The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "RECOMMENDED", "MAY", and "OPTIONAL" in this document are to be interpreted as described in [RFC2119].

## 2.0 Address Format

The Aggregatable Global Unicast Address Allocation format defined in [AGGR] is as follows:

|       |       |        |        |              |
|-------|-------|--------|--------|--------------|
| 3     | 13    | 32     | 16     | 64 bits      |
| +---+ | +---+ | +---+  | +---+  | +---+        |
| FP    | TLA   | NLA ID | SLA ID | Interface ID |
| ID    | ID    | ID     | ID     | ID           |
| +---+ | +---+ | +---+  | +---+  | +---+        |

where:

FP = 001 = Format Prefix

This is the Format Prefix used to identify aggregatable global unicast addresses.

TLA = 0x1FFE = Top-Level Aggregation Identifier

This is a TLA ID assigned by the IANA for 6bone testing under the auspices of the IETF IPng Transition Working Group 6bone testbed activity. It is to be administered by the chair of the 6bone activity (currently Bob Fink <rlfink@lbl.gov>). The use of this TLA ID is temporary. All users of these addresses in this TLA ID will be required to renumber at some time in the future.

NLA ID = Next-Level Aggregation Identifier

The NLA ID space will be assigned, by the TLA ID administrator, in an addressing hierarchy sufficient to identify transit networks and end user sites consistent with the architecture and topology of the 6bone. This will provide a multi-level transit service consistent with the 6bone goals of fully testing IPv6 technology in real use environments.

SLA ID = Site-Level Aggregation Identifier

The SLA ID field is used by an individual organization to create its own local addressing hierarchy and to identify subnets. Assignment of the SLA ID field is the responsibility of each individual organization.

## Interface ID

This is the interface identifier of the interface on the link as defined in the appropriate IPv6 over <link> document, such as [ETHER], [FDDI], etc.

## 4.0 References

- [ARCH] Hinden, R., "IP Version 6 Addressing Architecture", RFC 2373, July 1998.
- [AGGR] Hinden, R., Deering, S., O'Dell, M., "An Aggregatable Global Unicast Address Format", RFC 2374, July 1998.
- [AUTO] Thompson, S. and T. Narten, "IPv6 Stateless Address Autoconfiguration", RFC 1971, August 1996.
- [DHCP6] Bound, J., "Host Configuration Protocol for IPv6", Work in Progress.
- [ETHER] Crawford, M., "Transmission of IPv6 Packets over Ethernet Networks", RFC 2464, December 1998.
- [FDDI] Crawford, M., "Transmission of IPv6 Packets over FDDI Networks", RFC 2467, December 1998.
- [RFC2119] Bradner, S., "Key words for use in RFCs to Indicate Requirement Levels", BCP 14, RFC 2119, March 1997.
- [TLAASN] Hinden, R., "TLA and NLA Assignment Rules", Work in Progress.

## 5.0 Security Considerations

This document defines a test approach for creating aggregatable address consistent with [AGGR]. It does not have any direct impact on Internet infrastructure security. Authentication of IPv6 packets is defined in [AUTH].

## 6.0 Authors' Addresses

Robert M. Hinden  
Nokia  
232 Java Drive  
Sunnyvale, CA 94089  
USA

Phone: +1 408 990-2004  
EMail: hinden@iprg.nokia.com

Robert Fink  
Lawrence Berkeley National Laboratory  
MS 50A-3111  
Berkeley, CA 94720  
USA

Phone: +1 510 486-5692  
EMail: rlfink@lbl.gov

Jon Postel (Deceased)  
Information Sciences Institute  
4676 Admiralty Way  
Marina del Rey, CA 90292-6695  
USA

## 7.0 Full Copyright Statement

Copyright (C) The Internet Society (1998). All Rights Reserved.

This document and translations of it may be copied and furnished to others, and derivative works that comment on or otherwise explain it or assist in its implementation may be prepared, copied, published and distributed, in whole or in part, without restriction of any kind, provided that the above copyright notice and this paragraph are included on all such copies and derivative works. However, this document itself may not be modified in any way, such as by removing the copyright notice or references to the Internet Society or other Internet organizations, except as needed for the purpose of developing Internet standards in which case the procedures for copyrights defined in the Internet Standards process must be followed, or as required to translate it into languages other than English.

The limited permissions granted above are perpetual and will not be revoked by the Internet Society or its successors or assigns.

This document and the information contained herein is provided on an "AS IS" basis and THE INTERNET SOCIETY AND THE INTERNET ENGINEERING TASK FORCE DISCLAIMS 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.

