

Network Working Group
Request for Comments: 2375
Category: Informational

R. Hinden
Ipsilon Networks
S. Deering
Cisco
July 1998

IPv6 Multicast Address Assignments

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 (1998). All Rights Reserved.

1.0 Introduction

This document defines the initial assignment of IPv6 multicast addresses. It is based on the "IP Version 6 Addressing Architecture" [ADDARCH] and current IPv4 multicast address assignment found in <ftp://venera.isi.edu/in-notes/iana/assignments/multicast-addresses>. It adapts the IPv4 assignments that are relevant to IPv6 assignments. IPv4 assignments that were not relevant were not converted into IPv6 assignments. Comments are solicited on this conversion.

All other IPv6 multicast addresses are reserved.

Sections 2 and 3 specify reserved and preassigned IPv6 multicast addresses.

[ADDARCH] defines rules for assigning new IPv6 multicast addresses.

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 [RFC 2119].

2. Fixed Scope Multicast Addresses

These permanently assigned multicast addresses are valid over a specified scope value.

2.1 Node-Local Scope

FF01:0:0:0:0:0:0:1	All Nodes Address	[ADDARCH]
FF01:0:0:0:0:0:0:2	All Routers Address	[ADDARCH]

2.2 Link-Local Scope

FF02:0:0:0:0:0:0:1	All Nodes Address	[ADDARCH]
FF02:0:0:0:0:0:0:2	All Routers Address	[ADDARCH]
FF02:0:0:0:0:0:0:3	Unassigned	[JBP]
FF02:0:0:0:0:0:0:4	DVMRP Routers	[RFC1075,JBP]
FF02:0:0:0:0:0:0:5	OSPF/IGP	[RFC2328,Moy]
FF02:0:0:0:0:0:0:6	OSPF/IGP Designated Routers	[RFC2328,Moy]
FF02:0:0:0:0:0:0:7	ST Routers	[RFC1190,KS14]
FF02:0:0:0:0:0:0:8	ST Hosts	[RFC1190,KS14]
FF02:0:0:0:0:0:0:9	RIP Routers	[RFC2080]
FF02:0:0:0:0:0:0:A	EIGRP Routers	[Farinacci]
FF02:0:0:0:0:0:0:B	Mobile-Agents	[Bill Simpson]
FF02:0:0:0:0:0:0:D	All PIM Routers	[Farinacci]
FF02:0:0:0:0:0:0:E	RSVP-ENCAPSULATION	[Braden]
FF02:0:0:0:0:0:1:1	Link Name	[Harrington]
FF02:0:0:0:0:0:1:2	All-dhcp-agents	[Bound,Perkins]
FF02:0:0:0:0:1:FFXX:XXXX	Solicited-Node Address	[ADDARCH]

2.3 Site-Local Scope

FF05:0:0:0:0:0:0:2	All Routers Address	[ADDARCH]
FF05:0:0:0:0:0:1:3	All-dhcp-servers	[Bound,Perkins]
FF05:0:0:0:0:0:1:4	All-dhcp-relays	[Bound,Perkins]
FF05:0:0:0:0:0:1:1000	Service Location	[RFC2165]
-FF05:0:0:0:0:0:1:13FF		

3.0 All Scope Multicast Addresses

These permanently assigned multicast addresses are valid over all scope ranges. This is shown by an "X" in the scope field of the address that means any legal scope value.

Note that, as defined in [ADDARCH], IPv6 multicast addresses which are only different in scope represent different groups. Nodes must join each group individually.

The IPv6 multicast addresses with variable scope are as follows:

FF0X:0:0:0:0:0:0:0	Reserved Multicast Address	[ADDARCH]
FF0X:0:0:0:0:0:0:100	VMTP Managers Group	[RFC1045,DRC3]
FF0X:0:0:0:0:0:0:101	Network Time Protocol (NTP)	[RFC1119,DLM1]
FF0X:0:0:0:0:0:0:102	SGI-Dogfight	[AXC]
FF0X:0:0:0:0:0:0:103	Rwhod	[SXD]
FF0X:0:0:0:0:0:0:104	VNP	[DRC3]
FF0X:0:0:0:0:0:0:105	Artificial Horizons - Aviator	[BXF]
FF0X:0:0:0:0:0:0:106	NSS - Name Service Server	[BXS2]
FF0X:0:0:0:0:0:0:107	AUDIONEWS - Audio News Multicast	[MXF2]
FF0X:0:0:0:0:0:0:108	SUN NIS+ Information Service	[CXM3]
FF0X:0:0:0:0:0:0:109	MTP Multicast Transport Protocol	[SXA]
FF0X:0:0:0:0:0:0:10A	IETF-1-LOW-AUDIO	[SC3]
FF0X:0:0:0:0:0:0:10B	IETF-1-AUDIO	[SC3]
FF0X:0:0:0:0:0:0:10C	IETF-1-VIDEO	[SC3]
FF0X:0:0:0:0:0:0:10D	IETF-2-LOW-AUDIO	[SC3]
FF0X:0:0:0:0:0:0:10E	IETF-2-AUDIO	[SC3]
FF0X:0:0:0:0:0:0:10F	IETF-2-VIDEO	[SC3]
FF0X:0:0:0:0:0:0:110	MUSIC-SERVICE	[Guido van Rossum]
FF0X:0:0:0:0:0:0:111	SEANET-TELEMETRY	[Andrew Maffei]
FF0X:0:0:0:0:0:0:112	SEANET-IMAGE	[Andrew Maffei]
FF0X:0:0:0:0:0:0:113	MLOADD	[Braden]
FF0X:0:0:0:0:0:0:114	any private experiment	[JBP]
FF0X:0:0:0:0:0:0:115	DVMRP on MOSPF	[Moy]
FF0X:0:0:0:0:0:0:116	SVRLOC	[Veizades]
FF0X:0:0:0:0:0:0:117	XINGTV	<hgxing@aol.com>
FF0X:0:0:0:0:0:0:118	microsoft-ds	<arnoldm@microsoft.com>
FF0X:0:0:0:0:0:0:119	nbc-pro	<bloomer@birch.crd.ge.com>
FF0X:0:0:0:0:0:0:11A	nbc-pfn	<bloomer@birch.crd.ge.com>
FF0X:0:0:0:0:0:0:11B	lmsc-calren-1	[Uang]
FF0X:0:0:0:0:0:0:11C	lmsc-calren-2	[Uang]
FF0X:0:0:0:0:0:0:11D	lmsc-calren-3	[Uang]
FF0X:0:0:0:0:0:0:11E	lmsc-calren-4	[Uang]
FF0X:0:0:0:0:0:0:11F	ampr-info	[Janssen]
FF0X:0:0:0:0:0:0:120	mtrace	[Casner]
FF0X:0:0:0:0:0:0:121	RSVP-encap-1	[Braden]
FF0X:0:0:0:0:0:0:122	RSVP-encap-2	[Braden]
FF0X:0:0:0:0:0:0:123	SVRLOC-DA	[Veizades]
FF0X:0:0:0:0:0:0:124	rln-server	[Kean]
FF0X:0:0:0:0:0:0:125	proshare-mc	[Lewis]
FF0X:0:0:0:0:0:0:126	dantz	[Yackle]
FF0X:0:0:0:0:0:0:127	cisco-rp-announce	[Farinacci]
FF0X:0:0:0:0:0:0:128	cisco-rp-discovery	[Farinacci]
FF0X:0:0:0:0:0:0:129	gatekeeper	[Toga]
FF0X:0:0:0:0:0:0:12A	iberiagames	[Marochó]

```
FF0X:0:0:0:0:0:0:201  "rwho" Group (BSD) (unofficial)      [JBP]
FF0X:0:0:0:0:0:0:202  SUN RPC PMAPPROC_CALLIT                          [BXE1]

FF0X:0:0:0:0:0:2:0000
-FF0X:0:0:0:0:0:2:7FFD  Multimedia Conference Calls                      [SC3]
FF0X:0:0:0:0:0:2:7FFE  SAPv1 Announcements                              [SC3]
FF0X:0:0:0:0:0:2:7FFF  SAPv0 Announcements (deprecated)                [SC3]
FF0X:0:0:0:0:0:2:8000
-FF0X:0:0:0:0:0:2:FFFF  SAP Dynamic Assignments                          [SC3]
```

5.0 References

- [ADDARCH] Hinden, R., and S. Deering, "IP Version 6 Addressing Architecture", RFC 2373, July 1998.
- [AUTORFC] Thompson, S., and T. Narten, "IPv6 Stateless Address Autoconfiguration", RFC 1971, August 1996.
- [ETHER] Crawford, M., "Transmission of IPv6 Packets over Ethernet Networks", Work in Progress.
- [RFC1045] Cheriton, D., "VMTP: Versatile Message Transaction Protocol Specification", RFC 1045, February 1988.
- [RFC1075] Waitzman, D., Partridge, C., and S. Deering, "Distance Vector Multicast Routing Protocol", RFC 1075, November 1988.
- [RFC1112] Deering, S., "Host Extensions for IP Multicasting", STD 5, RFC 1112, Stanford University, August 1989.
- [RFC1119] Mills, D., "Network Time Protocol (Version 1), Specification and Implementation", STD 12, RFC 1119, July 1988.
- [RFC1190] Topolcic, C., Editor, "Experimental Internet Stream Protocol, Version 2 (ST-II)", RFC 1190, October 1990.
- [RFC2080] Malkin, G., and R. Minnear, "RIPng for IPv6", RFC 2080, January 1997.
- [RFC2119] Bradner, S., "Key words for use in RFCs to Indicate Requirement Levels", BCP 14, RFC 2119, March 1997.
- [RFC2165] Veizades, J., Guttman, E., Perkins, C., and S. Kaplan "Service Location Protocol", RFC 2165 June 1997.
- [RFC2328] Moy, J., "OSPF Version 2", STD 54, RFC 2328, April 1998.

6. People

<arnoldm@microsoft.com>

[AXC] Andrew Cherenson <arc@SGI.COM>

[Braden] Bob Braden, <braden@isi.edu>, April 1996.

[Bob Brenner]

[Bressler] David J. Bressler, <bressler@tss.com>, April 1996.

<bloomer@birch.crd.ge.com>

[Bound] Jim Bound <bound@zk3.dec.com>

[BXE1] Brendan Eic <brendan@illyria.wpd.sgi.com>

[BXF] Bruce Factor <ahi!bigapple!bruce@uunet.UU.NET>

[BXS2] Bill Schilit <schilit@parc.xerox.com>

[Casner] Steve Casner, <casner@isi.edu>, January 1995.

[CXM3] Chuck McManis <cmcmanis@sun.com>

[Tim Clark]

[DLM1] David Mills <Mills@HUEY.UDEL.EDU>

[DRC3] Dave Cheriton <cheriton@PESCADERO.STANFORD.EDU>

[DXS3] Daniel Steinber <Daniel.Steinberg@Eng.Sun.COM>

[Farinacci] Dino Farinacci, <dino@cisco.com>

[GSM11] Gary S. Malkin <GMALKIN@XYLOGICS.COM>

[Harrington] Dan Harrington, <dan@lucent.com>, July 1996.

<hgxing@aol.com>

[IANA] IANA <iana@iana.org>

[Janssen] Rob Janssen, <rob@pelchl.ampr.org>, January 1995.

[JBP] Jon Postel <postel@isi.edu>

[JXM1] Jim Miner <miner@star.com>
[Kean] Brian Kean, <bkean@dca.com>, August 1995.
[KS14] <mystery contact>
[Lee] Choon Lee, <cwl@nsd.3com.com>, April 1996.
[Lewis] Mark Lewis, <Mark_Lewis@ccm.jf.intel.com>, October 1995.
[Malamud] Carl Malamud, <carl@radio.com>, January 1996.
[Andrew Maffei]
[Marohco] Jose Luis Marocho, <73374.313@compuserve.com>, July 1996.
[Moy] John Moy <jmoy@casc.com>
[MXF2] Martin Forssen <maf@dtek.chalmers.se>
[Perkins] Charlie Perkins, <cperkins@corp.sun.com>
[Guido van Rossum]
[SC3] Steve Casner <casner@isi.edu>
[Simpson] Bill Simpson <bill.simpson@um.cc.umich.edu> November 1994.
[Joel Snyder]
[SXA] Susie Armstrong <Armstrong.wbst128@XEROX.COM>
[SXD] Steve Deering <deering@PARC.XEROX.COM>
[tynan] Dermot Tynan, <dtynan@claddagh.ie>, August 1995.
[Toga] Jim Toga, <jtoga@ibeam.jf.intel.com>, May 1996.
[Uang] Yea Uang <uang@force.decnet.lockheed.com> November 1994.
[Veizades] John Veizades, <veizades@tgv.com>, May 1995.
[Yackle] Dotty Yackle, <ditty_yackle@dantz.com>, February 1996.

7.0 Security Considerations

This document defines the initial assignment of IPv6 multicast addresses. As such it does not directly impact the security of the Internet infrastructure or its applications.

8.0 Authors' Addresses

Robert M. Hinden
Ipsilon Networks, Inc.
232 Java Drive
Sunnyvale, CA 94089
USA

Phone: +1 415 990 2004
EMail: hinden@ipsilon.com

Stephen E. Deering
Cisco Systems, Inc.
170 West Tasman Drive
San Jose, CA 95134-1706
USA

Phone: +1 408 527-8213
EMail: deering@cisco.com

9.0 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.

