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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.

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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 | OSPFIGP | [RFC2328,Moy] |
| FF02:0:0:0:0:0:0:6 | OSPFIGP 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

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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.

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