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IPv6 Multicast Address Assignments

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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.

[ADDRARCH] 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	[RFC1583,Moy]
FF02:0:0:0:0:0:0:6	OSPFIGP Designated Routers	[RFC1583,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                       [Marocho]

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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