

Multicast Addressing Architecture

Overview of the Internet Multicast Addressing Architecture

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Multicast Addressing Architecture

Background

- No current documentation on multicast addressing
 - However, there are some confusing or wrong earlier documents
 - We need to have short overview
 - For ourselves -- multicast people (especially new-comers to MBONED!)
 - For the rest of the IETF
 - For those might be considering multicast -- network operators, app designers/deployers
 - Useful for IANA to point to..
 - Seems like an IMDOC -like document
- Hence, a BCP document seems to be needed

Addressing Architecture

Addressing Architecture (1/3)

□ Terminology

○ Assignment vs Allocation

- Usually used interchangeably in DHCP community
- But these are very different to the operational community

□ Address allocation (to networks)

○ Easily derivable (no alloc structure needed)

- GLOP for v4
- Unicast-prefix based for v6 (and maybe later for v4)

○ Scope-relative

○ Static IANA allocation

- Not really done, but e.g. NASDAQ-like apps are close

○ Dynamic Allocation

- MASC and AAP abandoned; no dynamic efforts

Addressing Architecture

Addressing Architecture (2/3)

- Multicast address assignments (to hosts/apps)
 - Derived: v6 link-scoped addresses
 - SSM
 - Manually configured
 - Static IANA assignment
 - Dynamic assignment
 - E.g., MADCAP, DHCPv6 proposals

- Multicast address discovery (SLP, ...)
 - A challenge, but discussion might not belong in this document?

Addressing Architecture

Addressing Architecture (3/3)

□ Future actions

- More work is needed on address discovery
 - So that static IANA assignments/allocations would not be needed
- IPv6 multicast DAD/prefix communication could be analyzed
- Consider whether some part of space could be used for local apps
 - Possibly in local-scope for local apps
 - To prevent unnecessary leaking
- IETF could lock down the IANA alloc/assignment policy

□ Open issues

- Is making RFC2908 historic appropriate?
- Is the assignment vs allocation terminology separation useful?
- Do we want v4 unicast-prefix based addressing?
- Do we need a separate similar document on routing?

Multicast Addressing - Way Forward

What next?

- ☐ Is this a useful document?
- ☐ Should it be a WG document?
 - BCP?
- ☐ Are there opinions on the open issues/directions?