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S. Gundavelli
M. Townsley
O. Troan
W. Dec
Cisco

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Address Mapping of IPv6 Multicast Packets on Ethernet

Abstract

When transmitting an IPv6 packet with a multicast destination address, the IPv6 destination address is mapped to an Ethernet link-layer multicast address. This document clarifies that a mapping of an IPv6 packet with a multicast destination address may in some circumstances map to an Ethernet link-layer unicast address.

Status of This Memo

This is an Internet Standards Track document.

This document is a product of the Internet Engineering Task Force (IETF). It represents the consensus of the IETF community. It has received public review and has been approved for publication by the Internet Engineering Steering Group (IESG). Further information on Internet Standards is available in Section 2 of RFC 5741.

Information about the current status of this document, any errata, and how to provide feedback on it may be obtained at http://www.rfc-editor.org/info/rfc6085.

1. Introduction

"Transmission of IPv6 Packets over Ethernet Networks" ([RFC2464], Section 7) specifies how an IPv6 packet with a multicast destination address is mapped into an Ethernet link-layer address. This document extends this mapping to explicitly allow for a mapping of an IPv6 packet with a multicast destination address into an Ethernet link-layer unicast address, when it is clear that only one address is relevant.

This mapping does not replace the mapping described in [RFC2464], Section 7. The determination of the unicast Ethernet link-layer address and the construction of the outgoing IPv6 packet are out of scope for this document.

2. Conventions

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 [RFC2119].

3. Receiving IPv6 Multicast Packets

An IPv6 node receiving an IPv6 packet with a multicast destination address and an Ethernet link-layer unicast address MUST NOT drop the packet as a result of the use of this form of address mapping.

4. Security Considerations

This document does not introduce any new security vulnerabilities.

5. Acknowledgements

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6. Normative References

[RFC2119] Bradner, S., "Key words for use in RFCs to Indicate Requirement Levels", BCP 14, RFC 2119, March 1997.

[RFC2464] Crawford, M., "Transmission of IPv6 Packets over Ethernet Networks", RFC 2464, December 1998.

Authors' Addresses

Sri Gundavelli
Cisco
170 West Tasman Drive
San Jose, CA 95134
USA

EMail: sgundave@cisco.com

Mark Townsley
Cisco
L'Atlantis, 11, Rue Camille Desmoulins
ISSY LES MOULINEAUX, ILE DE FRANCE 92782
France

EMail: townsley@cisco.com

Ole Troan
Cisco
Oslo,
Norway

EMail: ot@cisco.com

Wojciech Dec
Cisco
Haarlerbergweg 13-19
Amsterdam, Noord-Holland 1101 CH
Netherlands

EMail: wdec@cisco.com