         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.

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## 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.

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