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Transmission of IPv6 Packets over the IEEE 802.11p OCB Mode
draft-lee-its-ipv6-over-80211ocb-00.txt

Abstract

This document describes the transmission of IPv6 packets over the IEEE 802.11p OCB mode. In particular it sets the MTU parameter and describes two alternative frame formats.

Status of This Memo

This Internet-Draft is submitted in full conformance with the provisions of BCP 78 and BCP 79.

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1. Introduction

In the IEEE 802.11p OCB mode, all nodes in the wireless range can directly communicate with each other without authentication/ association procedures, thus data exchange between nodes can be established in fractions of seconds. The IEEE 802.11p OCB mode has the following properties:

- Wildcard BSSID (i.e., all bits are set to 1) used by each node
- No beacons transmitted
- No authentication required
- No association needed
- No encryption provided
- dot11OCBActivated OID set to true

This document describes the transmission of IPv6 packets over the IEEE 802.11p OCB mode.

2. Terminology

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].

OCB - Outside the Context of a BSS.

802.11-OCB - IEEE 802.11-2012 text flagged by "dot11OCBActivated". This means: IEEE 802.11e for quality of service; 802.11j-2004 for half-clocked operations; and 802.11p for operation in the 5.9 GHz band and in mode OCB.

3. Maximum Transmission Unit

The default MTU size for IPv6 packets on an 802.11-OCB link is 1500 octets. This size may be reduced by a Router Advertisement containing an MTU option which specifies a smaller MTU, or by manual (or DHCPv6) configuration of each node. If a Router Advertisement received on an 802.11-OCB interface has an MTU option specifying an MTU larger than 1500 octets, or larger than a manually configured value, that MTU option may be logged to system management but must be otherwise ignored.

Non-IPv6 packets such as WAVE Short Message Protocol (WSMP) can be delivered on 802.11-OCB links. Specifications of these packets are out of scope and do not impose any limit on the MTU size, allowing an arbitrary number of 'containers'.

4. Frame Format

IPv6 packets can be transmitted as "IEEE 802.11 Data" or alternatively as "IEEE 802.11 QoS Data".

IEEE 802.11 Data	IEEE 802.11 QoS Data
Logical-Link Control	Logical-Link Control
IPv6 Header	IPv6 Header

5. Stateless Autoconfiguration

6. Link-Local Addresses

7. Address Mapping -- Unicast

8. Address Mapping -- Multicast

9. Security Considerations

10. IANA Considerations

11. Acknowledgements

The authors would like to acknowledge...

12. References

12.1. Normative References

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[RFC2464] Crawford, M., "Transmission of IPv6 Packets over Ethernet Networks", RFC 2464, DOI 10.17487/RFC2464, December 1998, <http://www.rfc-editor.org/info/rfc2464>.

12.2. Informative References

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[ieee802.11p-2010] "IEEE Std 802.11p(TM)-2010, IEEE Standard for Information Technology - Telecommunications and information exchange between systems - Local and metropolitan area networks - Specific requirements, Part 11: Wireless LAN Medium Access Control (MAC) and Physical Layer (PHY) Specifications, Amendment 6: Wireless Access in Vehicular Environments; document freely available at URL http://standards.ieee.org/getieee802/download/802.11p-2010.pdf retrieved on September 20th, 2013.".

Appendix A. ChangeLog

The changes are listed in reverse chronological order, most recent changes appearing at the top of the list.

From -00.txt to -00.txt:

o first version.

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