

# Transmission of IPv6 Packets over Wireless Body Area Networks (WBANs)

draft-sajjad-6lo-wban-01

Expires: May , 2018

MS. Akbar, C. Perkins , Jianqiang Hou, Alexandre Petrescu, R.  
N. B. Rais, AR. Sangi, M. Zhang

**IETF 100, Singapore**

# Current status

- Informational
- Intent to make it standard track
- Feedback and suggestions are required

# IEEE 802.15.6 Wireless Body Area Networks

- **Scope:** Standardized in 2012 for short range wireless communication in the vicinity of, or inside, a human body (but not limited to humans)
  - Supports QoS, extremely low power, & data rates up to 10 Mbps
  - Complies with strict non-interference guidelines where needed
  - Considers effects on portable antennas due to the presence of a human (varying with male, female, skinny, heavy, etc.)
  - Meets Specific Absorbed Radiation Limits
  - Medical Implant Communication Service

# Updates

- Reduced the WBAN introductory part
- The 6lo-WBAN adaptation layer is specified titled as "Specification of IPv6 over WBAN" that lists the main features that need to be added in the 6lo adaptation layer including
  - The formation of IID, IPv6 link-local address, unicast address mapping, header compression, and fragmentation and reassembly
- Appendix C: "Changes" is added

# Changes

1. Introduction . . . . .	2
1.1. Frame Format and Addressing Modes . . . . .	3
1.2. Why 6lo is required for IEEE 802.15.6 . . . . .	4
2. Conventions and Terminology . . . . .	5
3. Topology and Scope of Communication . . . . .	5
4. Protocol Stack . . . . .	6
5. Maximum Transmission Unit (MTU) . . . . .	7
6. Specification of IPv6 over WBAN . . . . .	7
6.1. Stateless Address Autoconfiguration . . . . .	8
6.2. IPv6 Link-Local Address . . . . .	8
6.3. Unicast and Multicast Address Mapping . . . . .	8
6.4. Header Compression . . . . .	8
6.5. Fragmentation and Reassembly . . . . .	9
7. IANA Considerations . . . . .	9
8. Security and Privacy Considerations . . . . .	9
9. References . . . . .	9
9.1. Normative References . . . . .	9
9.2. Informative References . . . . .	10
Appendix A. Patient monitoring use case - Spoke Hub . . . . .	10
Appendix B. Patient monitoring use case - Connected . . . . .	12
Appendix C. Changes . . . . .	13
Authors' Addresses . . . . .	13

# Stateless address auto-configuration

- The 64-bit IID SHALL be derived by utilizing 8-bit node address and 8-bit BAN ID (part of MAC header) as follows:
  - ID: 0xYY00:00FF:FE00:00XX

Where YY is the BAN ID, XX is the node address

# IPv6 Link-Local Address

- The IPv6 link-local address [RFC4291] for an IEEE 802.15.6 interface is generated by appending the interface identifier to the prefix
  - FE80::/64.

# Header Compression

- For IEEE 802.15.6, a LoWPAN encapsulation mechanism LoWPAN\_HC1 can be used
- Static header compression techniques of [RFC7400] can also be used as header compression



Questions  
Comments  
Suggestions