

IPv6 over Constrained Node Networks(6lo) Applicability & Use cases

draft-ietf-6lo-use-cases-13

Y-G. Hong (Daejeon Univ.), C. Gomez (UPC), Y-H. Choi (ETRI),
AR. Sangi(Huaiyin Institute of Technology), S. Chakrabarti

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History and status

- 1st WGLC : draft-ietf-6lo-use-cases-05 (Non. 2018)
- 2nd WGLC : draft-ietf-6lo-use-cases-09 (Oct. 2020)
- Submitted to IESG : draft-ietf-6lo-use-cases-12 (Feb. 2022)
- **13th revision : draft-ietf-6lo-use-cases-13 (Jul.11.2022)**

Updates after Last meeting

–Comments from Robert Sparks (secdir)

- Review result: Has Issues
- I have reviewed this document as part of the security directorate's ongoing effort to review all IETF documents being processed by the IESG. These comments were written primarily for the benefit of the security area directors. Document editors and WG chairs should treat these comments just like any other last call comments.
- This document has issues to address before publication as an Informational RFC

–Comments from Peter Yee (genart)

- Review result: Ready with Issues
- I am the assigned Gen-ART reviewer for this draft. The General Area Review Team (Gen-ART) reviews all IETF documents being processed by the IESG for the IETF Chair. Please treat these comments just like any other last call comments.

Comments from Robert Sparks (1/4)

–Security Considerations

- Its security considerations section claims "Security considerations are not directly applicable to this document". Yet the text of the draft has several places that rightly call out things like "there exist implications for privacy", "privacy also becomes a serious issue", and "the assumption is that L2 security must be present." A summary of these things in the security considerations section seems prudent. At least call out again the assumption about L2 security.

7. Security Considerations

Security considerations are not directly applicable to this document. For the use cases, the security requirements described in the protocol specifications apply.

The 6lo stack uses the IPv6 addressing model and it is required to consider the implication for privacy with L2-address-driven IPv6 addresses. In a typical 6lo use case with a variety of secured data (e.g., personal healthcare data), it is also required to provide secure data transmissions. Even though the 6lo stack does not address security at the network layer, it is required to provide L2-level security and application-level security is highly desirable.

Newly added

Comments from Robert Sparks (2/4)

–Security Requirement in the 6lo link layer technologies

- The "Security Requirement" A summary of these things in the security considerations section seems prudent. At _least_ call out again the assumption about L2 security.
- The "Security Requirement" row in Table 2 is not well explained. The values in that row are explained at all. (For instance, the word "Partially" appears exactly once in the document - it is unclear what it means).

	Z-Wave	BLE	DECT-ULE	MS/TP	NFC	PLC
Usage	Home Auto-mation	Interact w/ Smart Phone	Meter Reading	Building Auto-mation	Health-care Service	Smart Grid
Topology & Subnet	L2-mesh or L3-mesh	Star & Mesh	Star No mesh	MS/TP No mesh	P2P L2-mesh	Star Tree Mesh
Mobility Requirement	No	Low	No	No	Moderate	No
Security Requirement	High + Privacy required	Partially	High + Privacy required	High + Authen. required	High	High + Encrypt. required

Removed

Comments from Robert Sparks (3/4)

– Appendix A. Design Space Dimensions for 6lo Deployment

- Appendix A is neither introduced nor referenced from the body of the document.
- Why is it here?

– (Response)

- In old versions of this draft, the content in Appendix A is located in the main body. During progressing this draft and resolving the comments, it was moved to Appendix A (at IETF 106).
 - Narrow down and focus
 - Remove 5.1 Design space dimensions for 6lo deployment
 - We identified another design space dimensions compare to RFC 6568
 - But, each design space dimension is not related to each 6lo technology
- I would ask for directions and decide how to proceed.

Comments from Robert Sparks (3/4)

–Appendix A. Design Space Dimensions for 6lo Deployment

- Deployment/Bootstrapping
- Topology
- L2-Mesh or L3-Mesh
- Multi-link subnet
- Data rate
- Buffering requirements
- Security Requirements
- Mobility across 6lo networks and subnets
- Time synchronization requirements
- Reliability and QoS
- Traffic patterns
- Security Bootstrapping
- Power use strategy
- Update firmware requirements
- Wired vs. Wireless

Comments from Robert Sparks (4/4)

- Misuse of technology description and marketing words
 - At 'superior "range"', why is range in quotes? Think about restructuring the sentences that use 'superior' to avoid the connotation of "better than". All this document really needs to acknowledge is "goes further".
- (Response)
 - As you pointed, the draft has some parts which are recognized as marketing words. Because we invited some experts who are involved in the specific area, some marketing words could be included.
 - I tried to change the marketing words to technology words in the revision.

Comments from Peter Yee

- Summary : This informational document describes various networking technologies that can be used in 6lo networks, their characteristics, and example use cases.
- There some issues and nits that should be address prior to publication. [Ready with issues]
- Major issues: None
- Minor issues:

Updated to reflect all
minor issues

Thanks!!

Questions & Comments