draft-ietf-6tisch-minimal-security

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Status

- Status: Ready for WGLC
- Published -05 with
  - Implementation feedback
  - Resolved last remaining known issues
  - Review by Thomas Watteyne
- Goal of the presentation
  - Quick summary of updates since -04
  - Discuss WGLC

Change #1: Join traffic tagging

- Unauthenticated traffic from pledges forwarded in the mesh
- May cause intermediate 6TiSCH routers to request additional link capacity
  - e.g. Minimal Scheduling Function (draft-chang-6tisch-msf-01)
- Opens the network to the resource exhaustion attack vector
- Resolution:
  - Tag IP packets from pledges at Join Proxy before forwarding them
  - Use Diffserv Code Point to identify join traffic (RFC2597)
  - AF43 code point for Join Request, AF42 for (authenticated) join response
  - Out-of-scope how an SF reacts to this traffic, recommendation provided
  - Normative reference on RFC2597

Change #2: How does JRC know which network a pledge is trying to join?

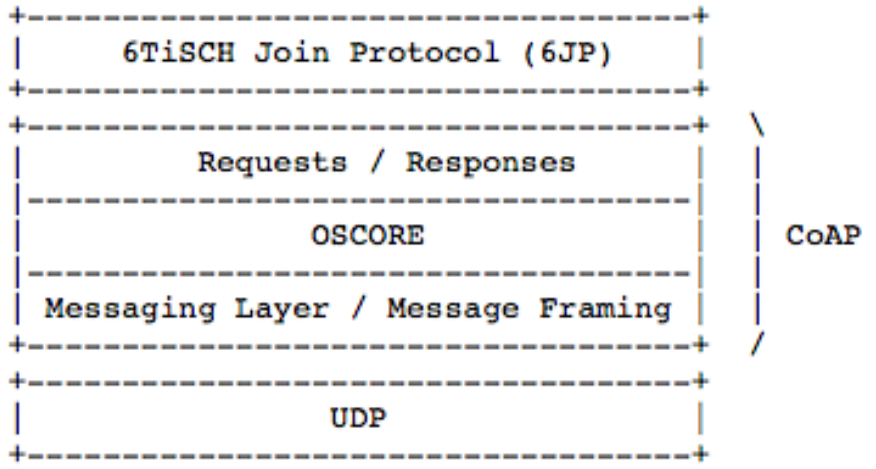
- Use case: JRC **not** co-located with 6LBR, managing multiple 6TiSCH networks
- When Join Request arrives, JRC needs to identify the network the pledge is attempting to join in order to hand out the correct link-layer keys
- Resolution:
  - Define Join Request payload: CBOR array with a single ”network_identifier” element
  - Join Request maps to a CoAP POST, so can carry payload

Change #3: Editorial 1/2

- Goals: clarify terminology, allow future specs to override identifiers
- Resolution:
  - Terminology section
    - List the terms extensively used, definitions in draft-ietf-6tisch-terminology
    - Stress the difference between “join process” and “join protocol”
  - Added a separate “Identifiers” section
    - Purpose is to use generic terms for “network identifier” and “pledge identifier”, mapping to PAN ID and EUI-64 by default, but allowing future specs to override it
    - The identifiers are used in the protocol
    - As this requires “standardization” text, the Terminology section is not the best fit

Change #3: Editorial 2/2

- Goal: Precise standardization scope of the document
- Resolution:
  - Configuration of:
    - 802.15.4 layer (e.g. link-layer security requirements)
    - IP layer (neighbor cache management, join traffic tagging)
    - Application layer (how to configure OSCORE context, use of Stateless-Proxy CoAP option)
  - Definition of the 6TiSCH Join Protocol (6JP)
    - Message mapping to CoAP
    - Payload formats (use of CBOR, examples in CBOR data definition language)
    - Semantics
  - Definition of Stateless-Proxy CoAP option
  - Separate sections in the document for each



Next steps

- Another plugtest in June 2018 in Paris
- Ready for WGLC
  - Coordinate with CORE on Stateless-Proxy
  - Normative reference on OSCORE, which is under IESG review