DNS over CoAP (DoC)

draft-ietf-core-dns-over-coap

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Motivation for DNS over CoAP

Attack Scenario

Countermeasure: Encrypt name resolution triggered by IoT devices against eavesdropping
Our Proposal: DNS over CoAP (DoC), draft-ietf-core-dns-over-coap

- **Encrypted communication** based on DTLS or OSCORE
- **Block-wise message transfer** to overcome Path MTU problem (DNS over DTLS)
- **Share system resources** with CoAP applications
  - Same socket and buffers can be used
  - Re-use of the CoAP retransmission mechanism
Accepted at CoNEXT’23, published in PACMNET:


ArXiv pre-print: [https://arxiv.org/abs/2207.07486](https://arxiv.org/abs/2207.07486)
Since IETF 117

+ Amended Introduction with short contextualization of constrained environments
+ Added appendix about research paper
Open Discussions on DoC: SVCB-DNS record

Address feedback from DNSOP (thanks Ben Schwartz!):

- Recommendation to add a section describing how to bootstrap DoC in a SVCB-DNS record. May require to allocate a new ALPN ID for CoAP/DTLS (see also GH issue 22).
  - `coap` ID already exists in ALPN registry for TLS (RFC 8323)
  - Never mandated for DTLS
    - Interim: Keep TLS only, define new ID for DTLS (see mailing list)
- SVCB with OSCORE/EDHOC: Discussion started on mailing list, some consensus needed
- Overall: DoC draft probably not the best place for this
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Should we start a draft on that?
Open Discussions on DoC: Cachable OSCORE

Address feedback from Marco Tiloca:

- Cachability ⇔ OSCORE: Reference draft-amsuess-core-cachable-oscore (see also PR 26)
WGLC?