Lightweight Authorization using EDHOC

https://datatracker.ietf.org/doc/**draft-ietf-lake-authz** (diff)

Geovane Fedrecheski, Inria

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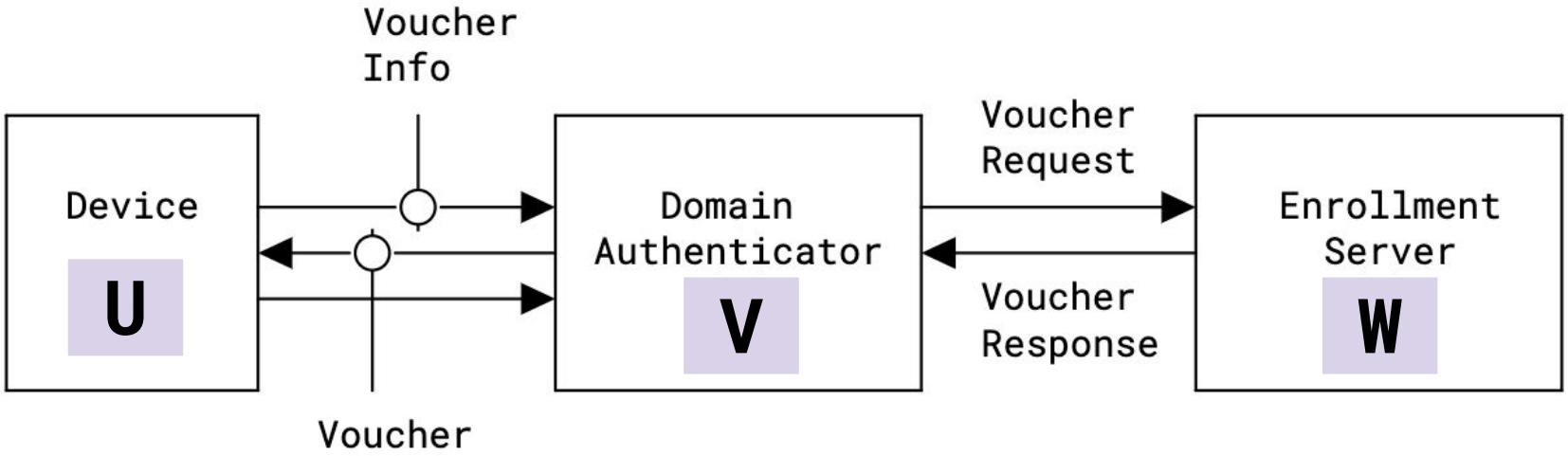
- Input from WG?

Recap: **Lightweight Authorization** using EDHOC

Also referred to as:
- **authz**
- **zero-touch** network join



Merged PRs for -01

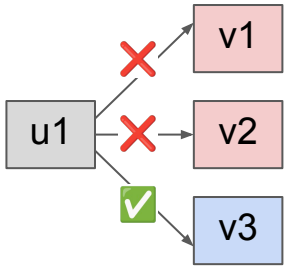
- **#28 Explain error handling in the VREQ/VRES protocol leg**
- #30 Update references now that EDHOC is an RFC
- **Marco's review**
  - #31 Editorial updates
  - #32 Specify missing CoAP status codes and Content-Format
  - #33 Rename section Problem Description to Outline
  - **#38 Credentials and clarifications**
- #34 CDDL nits
- #37 Read-through updates
- #39 Fix contact for media type registration

Proposal: Advertising lake-authz support

Context

Problem at -00 version:

- blind attempts may lead to **several retries**



Consume time ⌛ and energy 🔋

Proposal at -01:

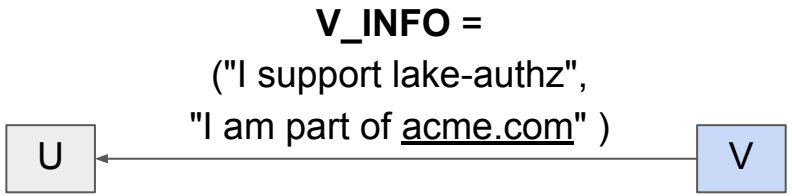
- have U and W share **hints** to minimize retries

Issues discussed in the working group:

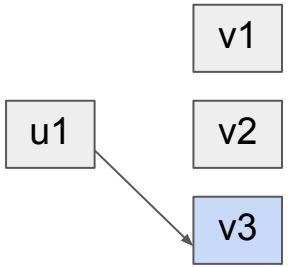
- **privacy** of sending network identifiers around
- increased **message footprint**

New proposal: **advertising**

- **Advertise**: have V tell U about lake-authz support (send V_INFO)



- **Impact**: enrollment attempt sent directly to supported gateway



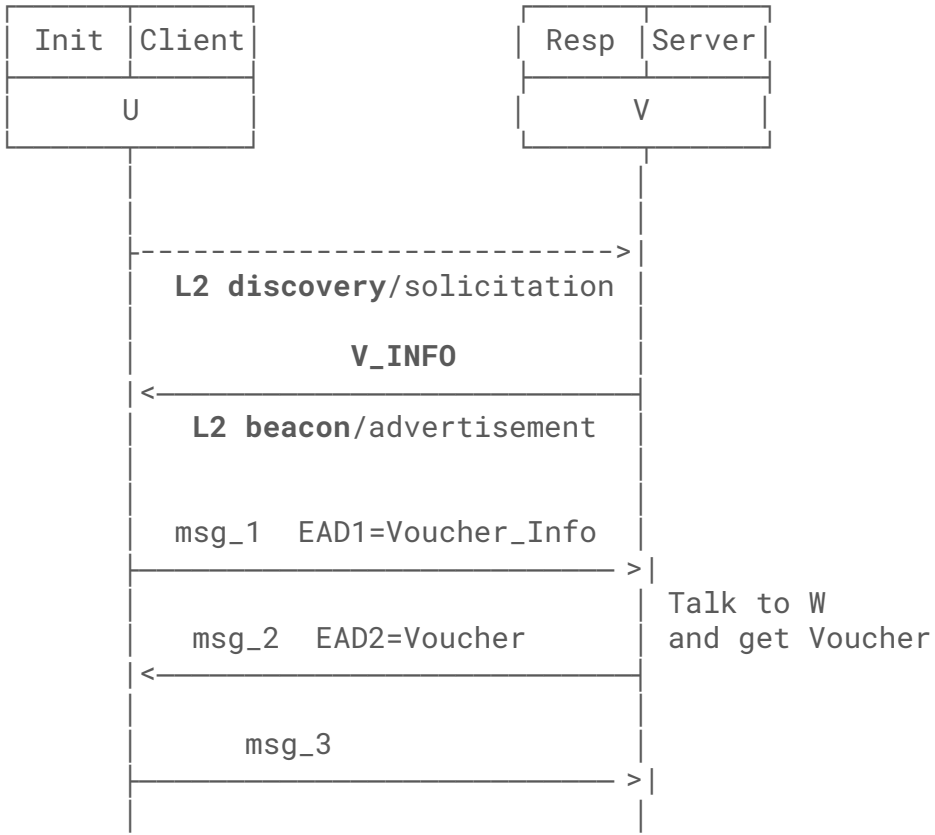
But **how** exactly? (next slide)

Two approaches

A1 **Layer two** beacons and EDHOC **forward** flow

A2 **CoAP** anycast/response and EDHOC **reverse** flow

A1 Layer two beacons and EDHOC forward flow



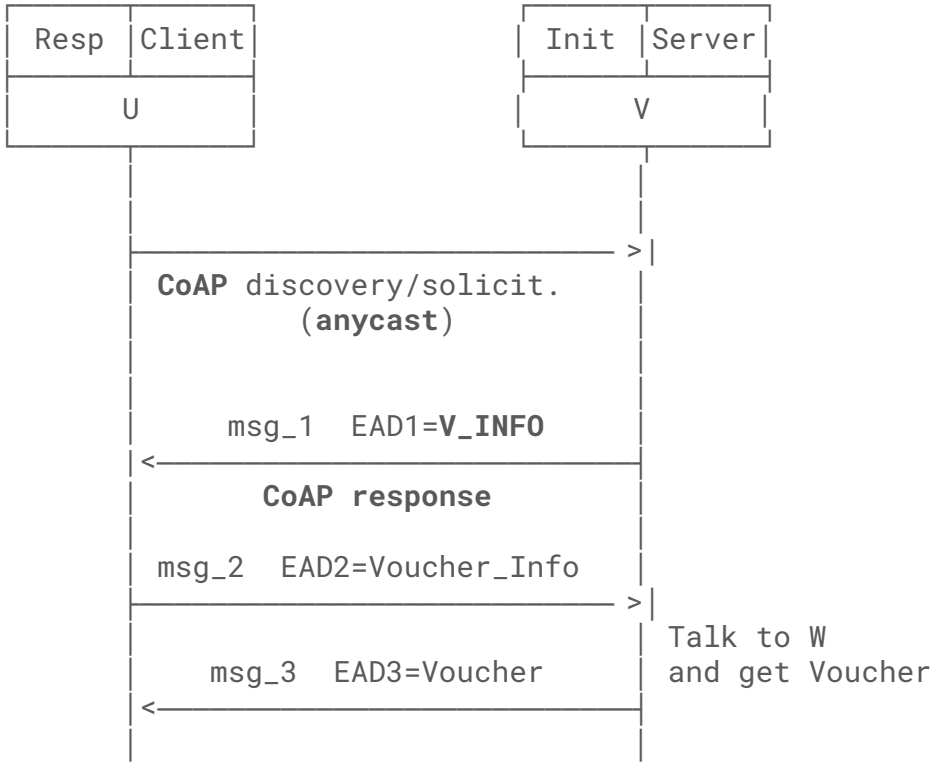
use of L2 beacons to carry V_INFO

- assumes extensible L2 at the beacon level
  - includes: IEEE 802.15.4, raw BLE
- optional trigger packet
  - needed by some L2, including non-beaconed IEEE 802.15.4 and BLE with GATT

EDHOC forward message flow

- no change to current state, except that a previous discovery phase is added
- CoJP appendix already considers discovery; the difference here is the addition of V_INFO

A2 CoAP anycast/response and EDHOC reverse flow



use of CoAP to carry V_INFO

- assumption: L2 allows transporting packets before enrollment takes place
  - works with: raw BLE, BLE with GATT
- automatic filter: V's that do not support lake-authz will simply not respond

EDHOC reverse message flow

- U = Responder, and V = Initiator
- msg_1 carried in the CoAP response
- V_INFO sent in EAD1
- Voucher_Info carried in EAD2 and Voucher in EAD3

Discussion and impacts

1. Layer two profiling
    a. **A1**: requires updates in beacons to carry V_INFO, **one profile per L2 technology**
    b. **A2**: may or may not require L2 profiling, as CoAP messages can be just sent as payloads
2. **A1** is a smaller change
3. **A2** allows for EDHOC msg_1 and V_INFO in same packet
4. **A2** requires CoAP communication **before enrollment**
5. **A2** uses the EDHOC reverse flow
    a. is it **commonly deployed**? any impact on **implementations**?
    b. stronger identity protection for V than for U
6. **A2** offers better protection for some fields
    a. Voucher_Info: sent in the clear in A1, but confidentiality-protected in A2
    b. Voucher: confidentiality-protected in A1, but confidentiality and integrity -protected in A2
7. looking forward to WG input

Thank you!

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geovane.fedrecheski@inria.fr