CoAP Transport Indication

ietf-core-transport-indication-09

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Recap: Mission

This slide is getting shorter and shorter per iteration, I think that's good.

- Consistently address resources without per-transport schemes.

Viewpoint for today

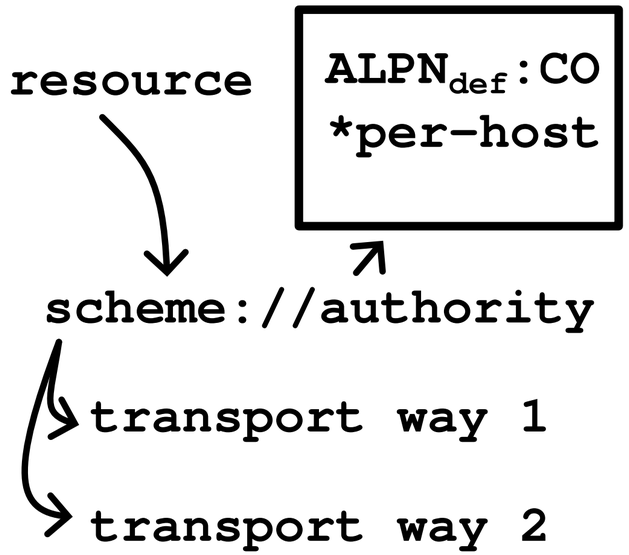
If the scheme/authority is insufficient on its own, what helps a client to find the server?

How can a client find a usable proxy?

Parallel perspectives

Using web links

Using DNS



Starting point: URI

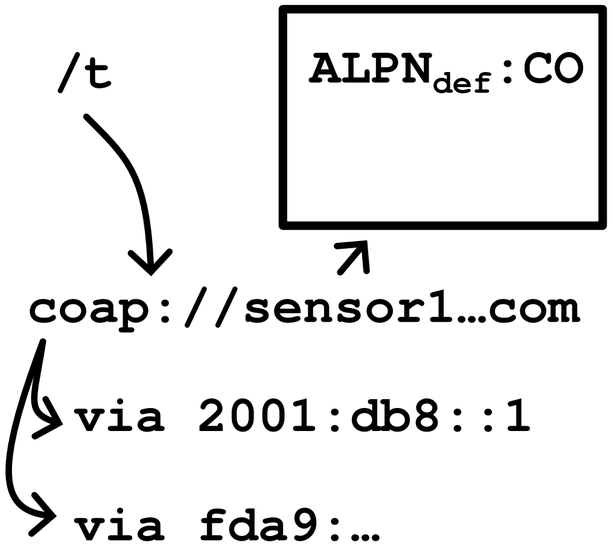
"You can find the temperature to monitor at the `/t` of `sensor1`."

```
<coap://sensor1.example.com/t>;rt=core.s
```

1. Where is that?
2. Which transport can I use?
3. Which security mechanism should I use?

Where is that?

```
<coap://[2001:db8::1]>;rel=has-proxy;
  anchor="coap://sensor1.example.com"
<coap://[fda9:7eb0:78db::1]>;rel=has-proxy;
  anchor="coap://sensor1.example.com"
```

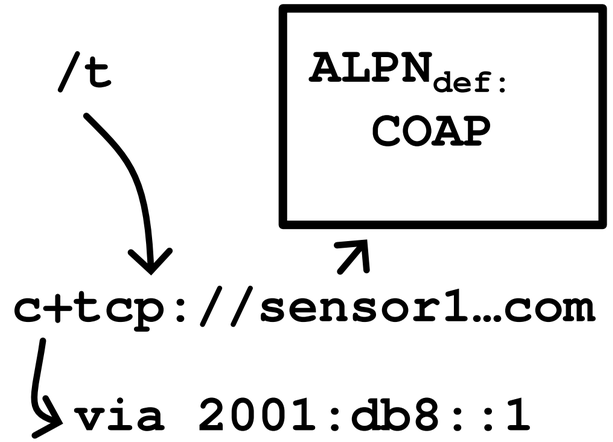



```
sensor1.example.com IN AAAA 2001:db8::1
sensor1.example.com IN AAAA fda9:7eb0:78db::1
```

Which transports are available?

TCP version

```
<coap+tcp://[2001:db8::1]>;rel=has-proxy;
  anchor="coap://sensor1.example.com"
```

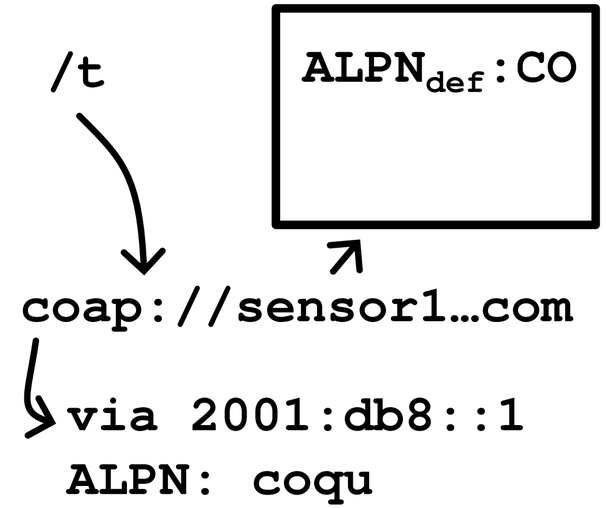



```
_coap.sensor1.example.com IN SVCB 1 . ( alpn=COAP )
      sensor1.example.com IN AAAA 2001:db8::1
```

Which transports are available?

over a hypothetical CoAP-over-QUIC

```
<coap://636f7175.alpn.2001-db8--1.6.service.arpa>;
  rel=has-proxy;anchor="coap://sensor1.example.com"
```

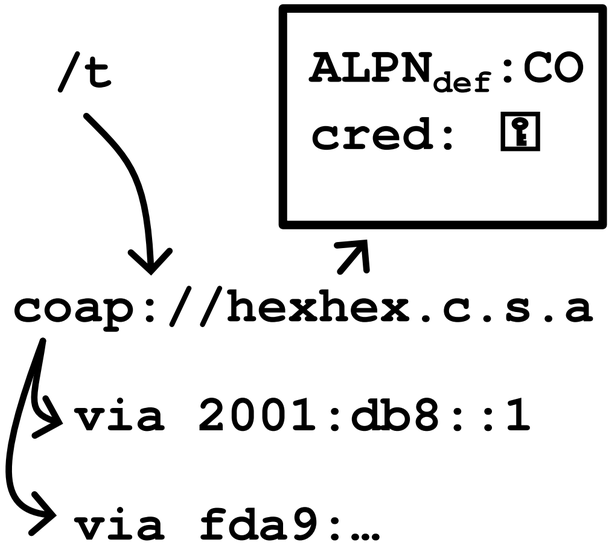



```
_coap.sensor1.example.com IN SVCB 1 . ( alpn=coqu )
      sensor1.example.com IN AAAA 2001:db8::1
```

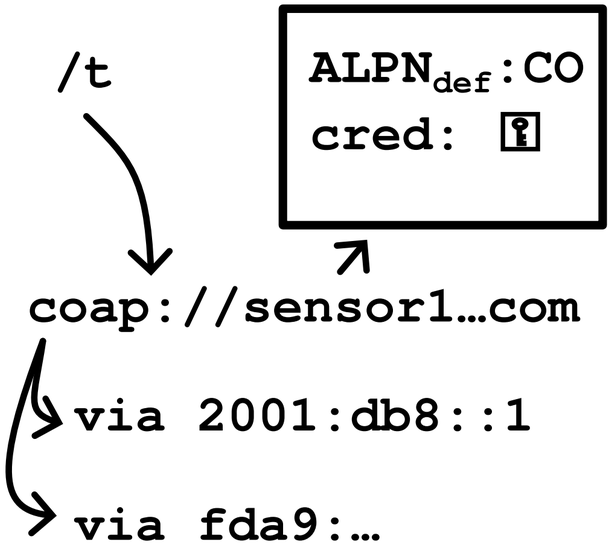
How do I know whom to talk to?

Only matters unless there is policy, such as “we use WebPKI”

```
<coap://hexhexhex.cred.service.arpa/t>
<coap+tcp://[2001:db8::1]>;rel=has-proxy;
    anchor="coap://hexhexhex.cred.service.arpa"
```
[a]




```
_coap.sensor1.example.com IN SVCB 1 . \
    ( alpn="COAP" cred="hexhexhex" )
sensor1.example.com IN AAAA 2001:db8::1
```
[b] [c]



[a] Questionable name switch, but enables using established sessions.

[b] DNS gets away without a name switch, but needs DNSSEC to make this really count.

[c] What would this look like for an TLSA or SSHFP record? Unsure.

Additional notes

- Address of the host? 3rd party proxy? Matters not.
- Non-IP transports are easy (e. g. CoAP-over-GATT, slipmux).

  Metadata from BLE or USB characteristics.
- Recent changes:
  - This now states that it is an SVCB mapping document.
  - `coaptransport` dissolved into `alpn`.
  - Modelling tweaks.

Questions

to the WG, unless noted otherwise

- Is the modelling sufficient and suitable?
- What are shared properties, what are properties of a transport?

  In particular, what can we do for the name switch announcing a cryptographic ID?
- Does this fit with the SVCB architecture?

  Will ask Ben Schwartz for review, whose input from DoC shaped recent changes.
- How does DANE fit SVCB?

  Ask … whom?
- Bikeshedding. (`.service.arpa`?)