

Implementation report

draft-reddy-dots-signal-channel-10

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Proof of concept

- Used californium framework (<https://eclipse.org/californium/>) to exchange DOTS messages using CoAP over DTLS.
- Californium implements DTLS 1.2

Proof of concept

- Californium framework provides APIs to
 - Use congestion control
 - Configuration of message transmission parameters and heartbeat timeout
 - Mark messages as Confirmable or Non-confirmable

Proof of concept

- Mozilla (with copper plugin <https://addons.mozilla.org/en-US/firefox/addon/copper-270430/>) to exchange DOTS messages to a test DOTS server.

Proof of concept

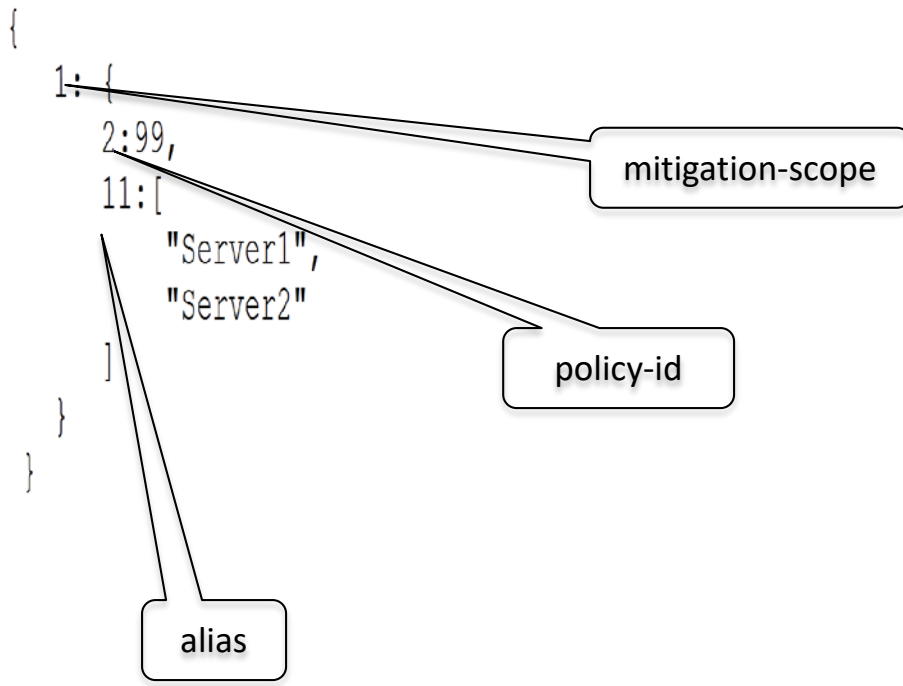
```
✓ Constrained Application Protocol, Non-Confirmable, PUT, MID:2719
  01.. .... = Version: 1
  ..01 .... = Type: Non-Confirmable (1)
  .... 1000 = Token Length: 8
Code: PUT (3)
Message ID: 2719
Token: 4ee7d4f8f01595e6
> Opt Name: #1: Uri-Host: www.example.com
> Opt Name: #2: Uri-Path: .well-known
> Opt Name: #3: Uri-Path: v1
> Opt Name: #4: Uri-Path: DOTS-signal
> Opt Name: #5: Uri-Path: signal
> Opt Name: #6: Content-Format: application/cbor
End of options marker: 255
\[Response In: 339\]
✓ Payload: Payload Content-Format: application/cbor, Length: 27
  Payload Desc: application/cbor
✓ Concise Binary Object Representation
  ✓ Map: (1 entries)
    ✓ ...0 0001 = Unsigned Integer: 1
      ✓ Map: (2 entries)
        ✓ ...0 0010 = Unsigned Integer: 2
          Unsigned Integer: 123344
        ✓ ...0 1011 = Unsigned Integer: 11
          ✓ Array: (2 elements)
            Text String: Server1
            Text String: Server2
```

Proof of concept (<http://cbor.me/>)

[Diagnostic](#)



24 [Bytes](#)



a1	# map(1)
01	# unsigned(1)
a2	# map(2)
02	# unsigned(2)
18 63	# unsigned(99)
0b	# unsigned(11)
82	# array(2)
67	# text(7)
53657276657231	# "Server1"
67	# text(7)
53657276657232	# "Server2"