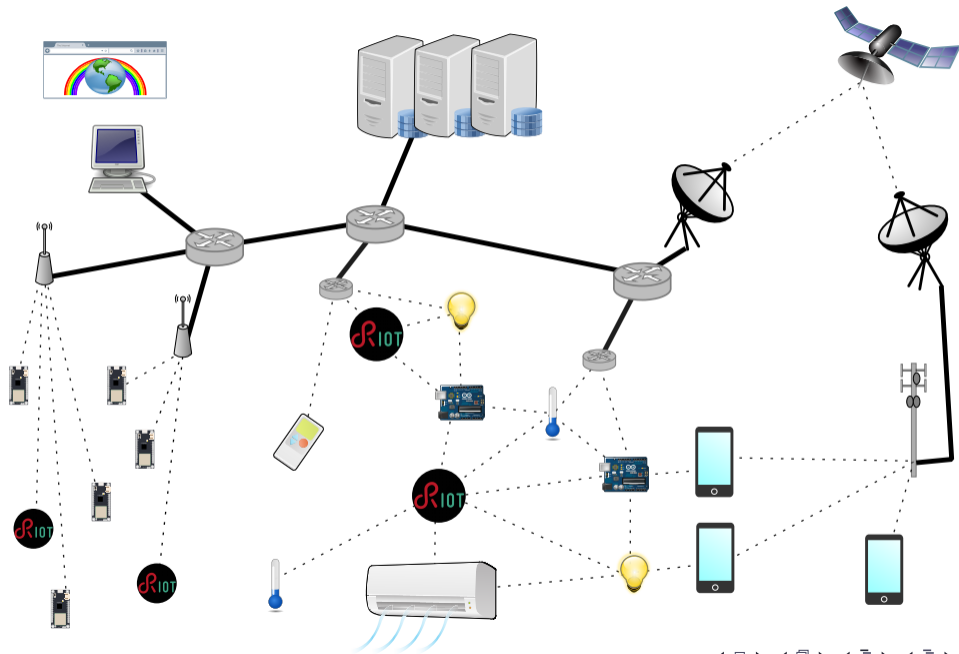


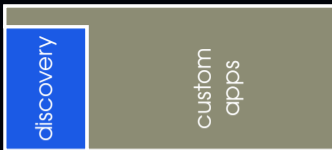
Resource discovery, Object Security and other news from CoAP

Christian Amsüss <chrysn@fsfe.org>

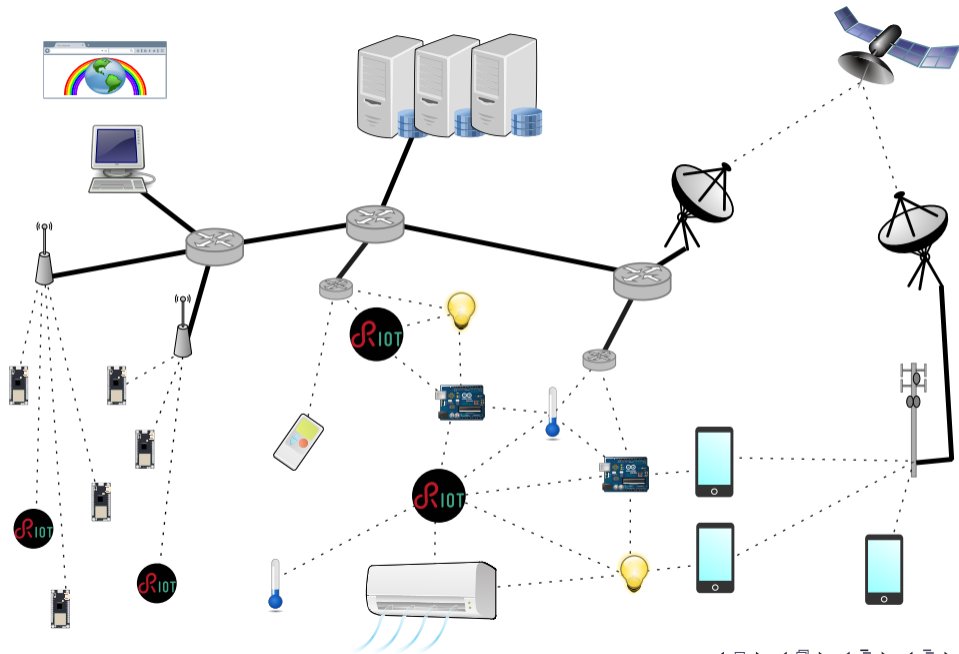
2018-09-13

Constrained RESTful environments

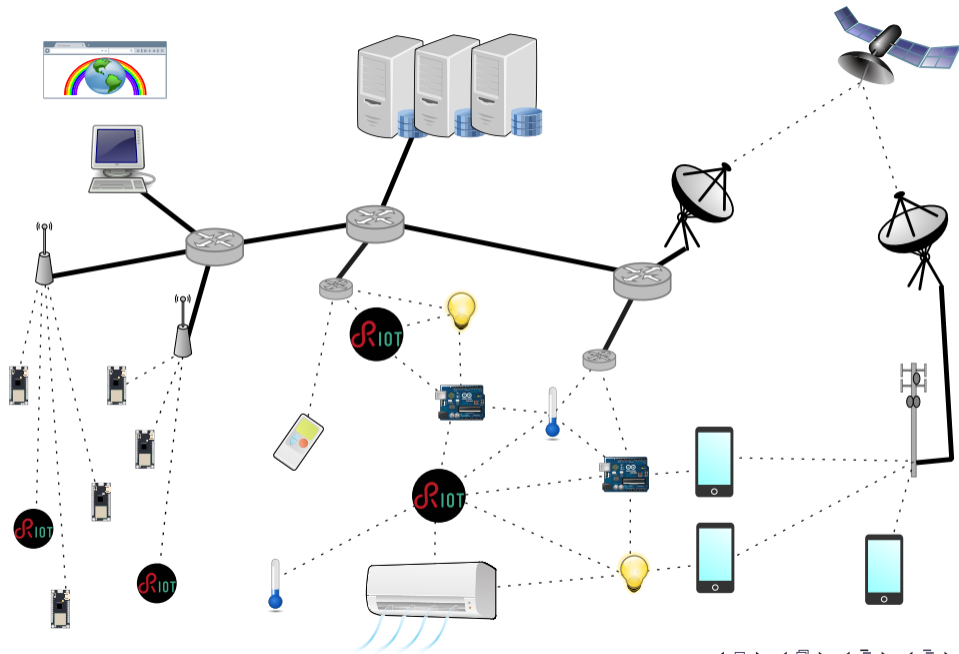








CoRE Resource Directory



Regular resource discovery

```
GET coap://[fd02::fd]/.well-known/core
?rt=temperature
```

```
Response: 2.05 Content
from [2001:db8:f0::1]
```

```
Payload:
```

```
</temp>;rt=temperature;ct=0
```

Registration at Resource Directory

```
POST coap://[2001:db8:f01::ff]/rd
      ?ep=node42&lt=300
from [2001:db8:f0::1]
Payload:
      </temp>;rt=temperature;ct=0
```

Response: 2.04 Changed

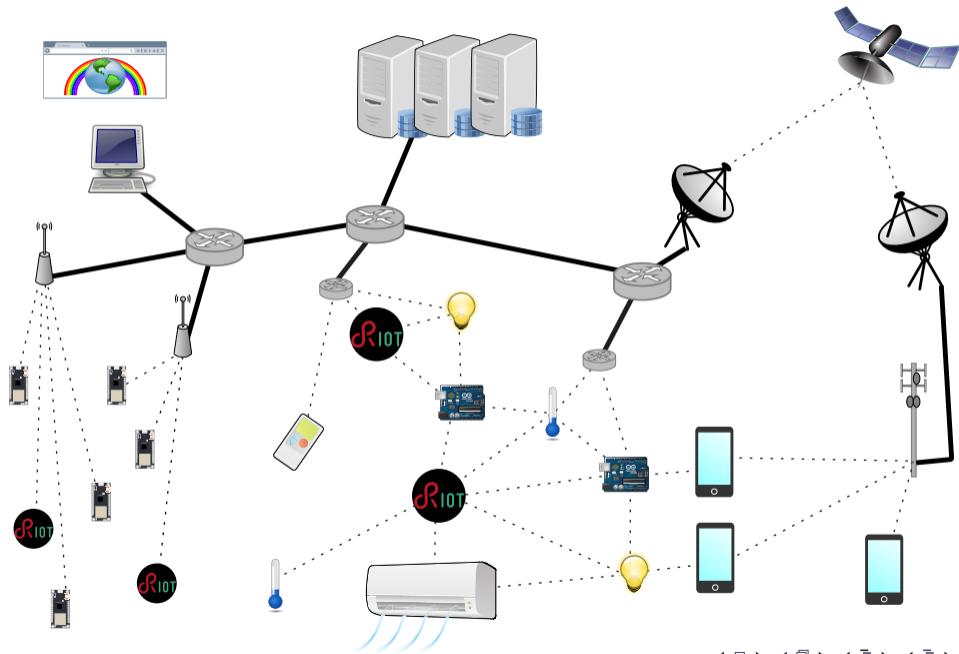
Discovery via Resource Directory

```
GET coap://[2001:db8:f01::ff]/rd-lookup/res
  ?rt=temperature
```

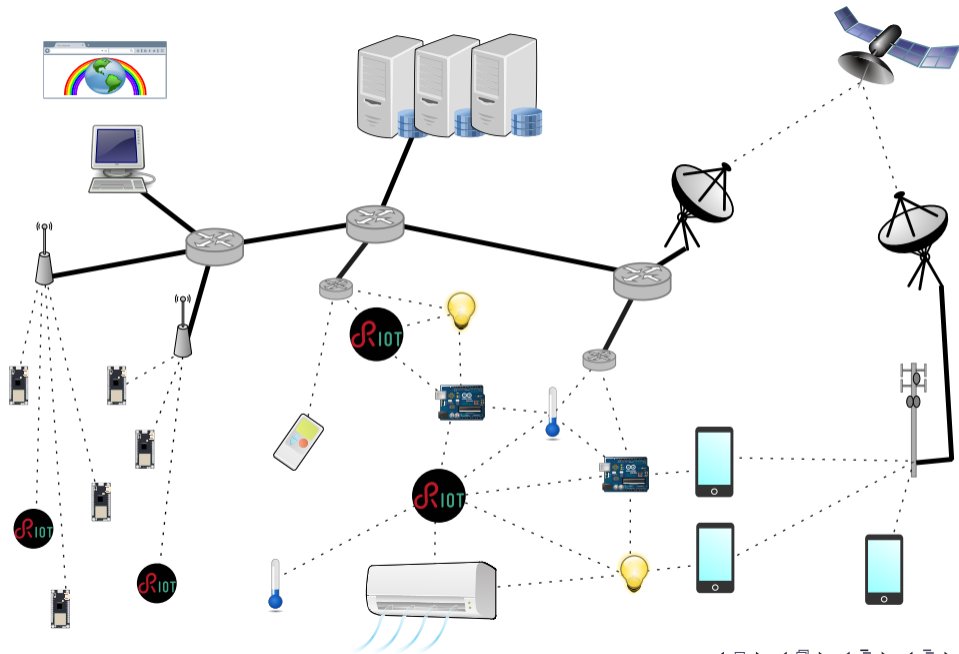
Response: 2.05 Content

Payload:

```
<coap://[2001:db8:f0::1]/temp>;
rt=temperature; ct=0;
anchor="coap://[2001:db8:f0::1]"
```



Object Security for CoRE



OSCORE request protection

GET coap://node42.example.com/ambient/

Token: "0123"

Observe: yes

POST coap://node42.example.com/

Token: "0123"

Observe: yes

Object-Security: key ID, nonce

Encrypted payload:

GET /ambient/

the AEAD tag

OSCORE response protection

2.05 Content

Token: "0123"

Observation update: 15

Payload:

air is still hot but not as dry any more

2.04 Changed

Token: "0123"

Observation update: 15

Object-Security: empty

Encrypted payload:

2.05 Content, Payload:

air is still hot but not as dry any more

AEAD tag



Recap

- ▶ Resource Directory: discovery where multicast won't do
- ▶ OSCORE: compact end to end protected exchanges across proxies
- ▶ SenML, Links-CBOR: compact versatile media types
- ▶ CoREConf, PubSub, CoRE interfaces: application building blocks

Thanks for having me here

Slides and more links on

<http://christian.amsuess.com/presentations/2018/summit-coap/>

