Mobile Computing :

Architecture :

IoT Gateway

HTTP Endpoints

http://{socketaddr}/data/globalStates

http://{socketaddr}/data/isAct

Decision Control Unit

State Threshold

State Comparator

Actuation Command

State Retrieval

CoAP Endpoints

coap://{authority}/temp

coap://{authority}/alarm

coap://{authority}/smoke

Payload Parsing

State Generation

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GET

GET

POST

POST

GET Observe

CoAP Semantics and Resource Discovery :

Service Discovery Implemented when the protocol and endpoint URI are both not known.

Example : In HTTP through DNS Query

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Environment Requirement : Improving Battery Life involves CoAP endpoints not being queried for a measurement at smaller intervals.

2 Methods to improve the fidelity of resources :

* Caching and Proxying
* Resource Observation

CoAP Resource Observation :

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Caching : Storing Resource representation by a CoAP endpoint for the lifetime of the measurement as defined by the sensing endpoint.

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Firmware Updates and Log Transfer:

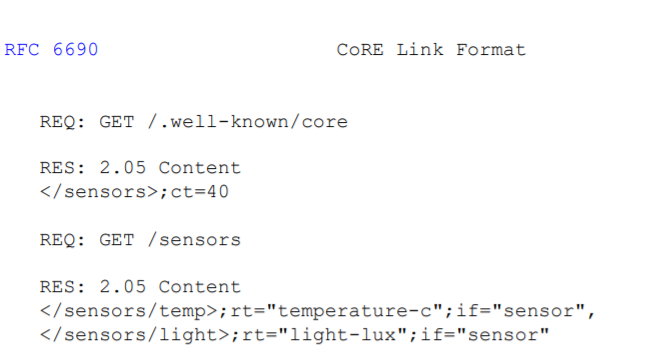
Typical CoAP payload transfer is of order of 10s of bytes. But for firmware update or periodic log recovery into the database or for centralized analytics , block transfer can be used.

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CoRE Resource Discovery :

Weblink Format defines resource discovery in Constrained Restful Environments.



Example with IpSO Semantics :

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Interface Semantics :

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The more general approach will be to have a centralized well known Resource Directory where CoAP endpoints register itself and the CoAP Gateway queries the well-known resource directory.

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Architecture :

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