The Constrained RESTful Application Language (CoRAL)
draft-ietf-core-coral-05

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A data model and language for talking about resources and interactions with them, suitable for constrained devices
CoRAL: Properties relevant for today

- Information model is similar to RDF
- CBOR based representation of URIs and structure

“My temperature resource supports the Series Transfer Pattern.”
</temp> core:if <tag:example.com,2020,t2trg-stp>.

...plus some features not covered today, such as navigation through forms, localization, and convertability with suitable Link Format documents or RDF.
Recent model simplification: Literals

Literals are terminal nodes in the graph. Any properties literals might have are expressed through CBOR tags. problem-details did the hard work here.
Ongoing work: Compact format based on cbor-packed

```
core:rt pubsub:topic,
pubsub:has-published-item true,
pubsub:created dt'2019-07-08T15:35:00+0200',
pubsub:last-modified dt'2019-07-08T15:35:00+0200',
pubsub:topic-data [ = </ps/data/1234>,
  core:title "My Office Room Temperature",
  core:rt oic:r.temperature,
  our:building 18,
  our:floor 1,
  core:unit unit:Cel,
]
```
Ongoing work: Compact format based on cbor-packed

- Some table entries initialized through media type. 
  `core:title` used compressed as [2, 6(14), "My Office "…]
- Registered ranges can be loaded without referencing dictionaries by any long identifiers 
  `pubsub:*` pushed into tables through `TBD(6(16), [10, 0], …)
- Custom terms are loaded by referencing URIs 
  `our:building` pushed into tables through 
  `TBD(cri"https://our.example.com/tab", [3, 3], …)
- CRI CURIEs? `unit:Cell`

Also join CBOR on Thursday for discussion of cbor-packed!
Ongoing work: Security model

Use existing security models, but tell how to apply them. The CoRAL document should provide...

- to application authors: Guidance on expressing their security requirements.
- to CoRAL agents: Rules for evaluating these security requirements against the authorizations conveyed in CoRAL documents.
Open areas and next steps

- Binary serialization – needs more real-world examples, especially of forms.
- Mapping to problem-details – now that is done.
- Queries, patches, provenance – likely not in initial version.
Thanks

Comments?

Questions?