RESTful Design for Internet of Things Systems

draft-keranen-t2trg-rest-iot-01

Ari Keränen <ari.keranen@ericsson.com>
with Matthias Kovatsch & Klaus Hartke

T2TRG meeting
San Jose, March 15th, 2016

RESTful Design

- Something similar to building a house
  - We have all seen and used them
  - We have a pretty good idea what we expect the internals to look like
  - Architecture has patterns one should follow
  - But there are also non-obvious reasons why some things are done in a certain way; and it can be easy to miss those

RESTful Design

3

Goal of the Document

- "Guidance for designing IoT systems that follow the principles of the REST architectural style"

- Collect terminology

- Key information + pointers to details

- With IoT focus in examples etc.

- … while keeping it quick and easy to read

Where we are now

- -01 out
  - More terminology
  - Clarified idempotency and application state
  - What's different with IoT (data formats, interaction patterns, etc.)
- Remaining key topics including
  - Resource and media type design
  - HATEOAS
  - Design patterns

Resource and Representation Format (Media Type) Design

- What representation formats to use
  - Existing?
  - New?
- What/how to model as resource?
  - "Identified by URI; anything that can be named can be a resource; often encapsulates a piece of state in a system"
  - Rule(s)-of-thumb?
  - Collections?
  - Hierarchy?
- URI mappings?
  - Strict rules?
- Good authoritative references?