Discovery

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Outline

- Discovery Editor's Draft Review – What's New

- Embedded Metadata and Thing Types

- Open Issues

- Implementation and Testing Gaps

What's New

Editor's Draft Review

- TD Refactoring
  - Property for listing all TDs, Actions for queries
  - Renaming of interactions (nouns for properties, verbs for actions)
  - Separate events for different notifications
- Embedded metadata (Enriched TDs)
  - Ontology
  - Registration information, including expiry datetime

Embedded Metadata and Thing Types

- Registration information
  - Optional information that can be included in an "Enriched TD"
  - Includes relative/absolute expiry time support
- TD Types
  - Thing Link: https://github.com/w3c/wot-discovery/pull/207 (examples)
- Both have/need ontology support

Open Issues

- Pagination using explicit JSON payload
  - inter-item vs. intra-item; applies to collections generally

- TD/TM appropriateness for describing Discovery API
  - When to use actions vs. properties; relationship to "RESTful" APIs
  - No standard way to support collections
  - No standard way to support dynamic resources
  - Chunking, use of HEAD, PATCH, etc.
  - Event Subscription – all events

- RDF Framing and round-tripping

- Canonicalization and Signing (pending addition to TDs…)

- Validation
  - How to deal with extensions

Discussion

- Collections
  - Applies to other IoT things – e.g. Timers, Data records, Batch sensors, etc.
  - Pagination is generally needed for collections
  - An "op" on properties to get a subset?
- Protocol dependence
  - Efficiency vs. orthogonality
- PATCH
  - Actually reduces load on SMALL devices
  - Useful for other things, i.e. dynamic geolocation data in a TD
- Events
  - SSE limit in browsers; subscribe-to-all useful op

Discussion 2

- Profiles vs. Directory
  - Directory not following core profile – and that's ok, it's "its own profile"

- Ontologies
  - Use cases for ThingLink → argues to move/reference these into/from the TD ontology (e.g. similar to wot-security)
  - May also want to move registrationInfo, ThingDirectory

- Relationship of TM and ThingLink to be clarified/aligned
  - Look at use cases, related to TD/TM use cases

- SPARQL/RDF Round-tripping
  - JSON-LD Framing needed... or not?
  - What use cases need a valid TD returned from a SPARQL query?
    - Can use SPARQL -> get ids -> get TDs from id using retrieveThing interaction

Implementation and Testing Gaps

- Elements that Need Testing
  - Introductions: DNS-SD, DID, CoRE RD
  - Explorations
    - Self-Description
    - Directory Service

- Directory Service
  - Largest part of the specification
  - Two separate implementations in progress
  - Start on a test suite, tool integration
  - Gaps/challenges:
    - Only one committed to (the optional...) SPARQL implementation
    - Query mechanisms (e.g. JSON Path) very "large" – how to validate?
    - JSON Path specification still in draft (with IETF)