The Linked Data Platform to Address, Describe and Interact with Things

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“Simple approach for a read-write Linked Data architecture, based on HTTP access to web resources that describe their state using the RDF data model.”

Candidate recommendation in June 2014

Typical scenarios

http://www.w3.org/TR/ldp-ucr/
Our LDP journey

- APIs for Cloud management
  - Issues at that time
    - XML vs. JSON, Consistency, Uniform interaction semantics, Lifecycle, History
  - Solution: Dynamic Information Management (read/write Linked Data)
    - REST + Linked Data
    - Appreciated benefits
      - Silo-breaking, API-of-APIs, etc ...
      - Address, Description (links), Interactivity ➔ Generic Client

- Linked Data Platform (LDP) standard at W3C

- Now considering application to other scenarios
  - e.g. sensing use-cases in healthcare
  - Seeing some new challenges ...
Addressable documents
i.e. projections of underlying resources/things
Uniform data processing model
Writing

System

has_vm

has_vm

has_network

VMs

Networks

DELETE

PATCH / PUT

Updates and Deletes
Writing

Containers
Writing

Introspection
Writing

Status history
Benefits

- Universality. Generic client
  - Address
  - Description
    - linking
    - data processing model
  - Interaction
    - introspection
    - clear semantics
- API of APIs
  - Linking between APIs
- SPARQL‘ing the Cloud
WoT?

- LDP good
  - Container can be a receiver of streamed updates
  - Cloud Management of Sensors
    - i.e. "the Proxy approach"
    - discovery, pairing
    - pushing directions

- But
  - LDP.next
    - Form language? RDF constraints?
    - Pagination
    - Filtering large collections
    - ...

- Also
  - Cloud -> Gateway push?
  - Websockets, MQTT, etc?
    - ‘streaming’ container as a specialization of container
      - associated to a special processing semantic
    - ‘upgrade’ to a Websocket?
      - works for read, write, or read/write ...
  - Alternative encodings of RDF (CSV-LD, ...)
shaping tomorrow with you