Hypermedia for Machine Interaction

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Hypermedia for Machine Interaction

- Hypermedia Format for Machine Interactions
  - Analogous to HTML on the WWW
- Data Model
  - Hyperlinks and Collections
- Interaction Model
  - CRUD+N and Common Design Patterns
- Vocabulary
  - Reserved Keywords and Link Values
- Semantic Annotation
  - External Application Semantics

Optimized for Machine Interactions

- Based on IETF Constrained RESTful Environments (CoRE) Specifications
- Machine readable resource descriptions and representations
- Application can retrieve and update links, data items, or an embedded representation of both
- Canonical JSON format can be binary encoded as CBOR or EXI
- CoRAL encodes hypermedia vocabulary hich uses long strings into binary identifiers using CBOR

Enhanced REST Architecture

- REST + asynchronous notification
- Machine comprehensible hyperlinks
- Discovery using application semantics
- Action forms describe actuation and control
- RESTful actuation and command life cycle
- Hypermedia controls for notification and event life cycle

IETF CoRE Drafts and RFCs

- Constrained RESTful Environments
  - SenML (draft-ietf-core-senml)
  - CoRE Link-Format (RFC6690)
  - CoRE Interfaces (draft-ietf-core-interfaces)
  - Dynamic Linking (draft-groves-core-dynlink)
  - Resource Directory (draft-ietf-core-resource-directory)
  - CBOR (RFC7049)
  - CoRE Applications (draft-hartke-core-apps)
  - CoRAL (draft-hartke-t2trg-coral)