Request for comments on updated sensor data structure for API

Skeleton structure below is intended to show the shape of the JSON response which would be received under the updated REST API.

Sensor
- ID
- Name
- **Location[]** *(to allow sensors to be moved)*
  - ID
  - Description
  - Notes
  - Installed time
  - **Geometry[]**
    - Description *(e.g. Representative zone on floor plan, or centroid)*
    - Geometry *(returned as GeoJSON, stored as EWKB)*
- **Feed[]** *(e.g. one of our own telemetered sensors, or manual spot measurements for calibration)*
  - ID
  - Start time *(to allow substitution or changes in the provider's data etc.)*
  - Notes
  - **Provider**
    - Organisation name
    - **Licence**
      - Name
      - HREF
      - Special terms
  - **Hardware[]** *(omitted for third-party providers where unknown)*
    - Installed time
    - Manufacturer
    - Model
    - Serial no.
    - Classification
  - **Service[]**
    - Time
    - Notes
  - **Timeseries[]**
    - ID
    - Interval *(may be null for instantaneous measurements or dynamic intervals)*
    - Earliest observation
    - Latest observation
    - Units
    - **Metadata** (*key/value pairs in JSONB/HStore form)*
    - **Source**
      - Server
      - Organisation
      - Database driver
      - Datasource (*table name or key etc.*)
    - **Sampling rules**
      - Condition (i*.e. variable X must be > Y)*
      - Interval *(i.e. when above is true, sample at this interval)*
    - **Restrictions**

Authorised roles[] (*to allow some sensitive/more valuable data to be restricted*)

Aggregation

Sample frequency

Source timeseries

Spatial discretisation *(to allow rainfall radar etc. to be aggregated by city/catchment etc.)*

Method

Derivatives

Description

Source timeseries

Method *(will map to some applicable code to perform conversions etc.)*

Parameters *(e.g. calibration coefficients, as JSON key/value pairs)*

Start time *(to allow recalibration etc.)*

End time

Values

Status rules *(for the purposes of QA thresholds on suspect measurements)*

Description

Rule

Outcome

Observations[] *(may be stored outside of PostgreSQL)*

Start time

End time *(may be identical to start time for instantaneous)*

Duration *(computed from above)*

Flags[] *(may not have any, may be flagged as suspect, etc.)*

Value *(may be a URL for images/video, may be a number, may even be JSON)*