Documenting JSON in Protocols

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Problem statement

• JSON syntax is defined in ABNF
• Other documents defining JSON objects need to specify their formats
• They tend to use ABNF
• We’d rather have them use JSON primitives
Example with reputons: before

reputon = "{" [ reputon-object *(value-separator reputon-object) ] "}""}

reputon-object = "reputon" name-separator response-set

response-set = "{" reputon-element *(value-separator reputon-element) "}"}

reputon-element = rater-value / assertion-value / rated-value / rating-value / conf-value / normal-value
     / sample-value / gen-value / expire-value / ext-value
 ; these can appear in any order, but MUST appear at most once each

rater-value = %x22 "rater" %x22 name-separator string

assertion-value = %x22 "assertion" %x22 name-separator string

rated-value = %x22 "rated" %x22 name-separator string
Example with reputons: after

reputation-object: an OBJECT containing a MEMBER reputation-context and a MEMBER reputon-list

reputation-context: a MEMBER with MEMBER-NAME "application" and MEMBER-VALUE a STRING (see Section 3)

reputon-list: a MEMBER with MEMBER-NAME "reputons" and MEMBER-VALUE a reputon-array

reputon-array: an ARRAY, where each ARRAY-VALUE is a reputon

reputon: an OBJECT, where each MEMBER is a reputon-element

reputon-element: one of the following, defined below: rater-value, assertion-value, [...etc...]

rater-value: a MEMBER with MEMBER-NAME "rater" and MEMBER-VALUE a STRING (see "rater" in Section 3.1)

assertion-value: a MEMBER with MEMBER-NAME "assertion" and MEMBER-VALUE a STRING (see "assertion" in Section 3.1)
The preamble to “after”

6.2.1. Imported JSON Terms

OBJECT: a JSON object, defined in Section 2.2 of [JSON]
MEMBER: a member of a JSON object, defined in Section 2.2 of [JSON]
MEMBER-NAME: the name of a MEMBER, defined as a "string" in Section 2.2 of [JSON]
MEMBER-VALUE: the value of a MEMBER, defined as a "value" in Section 2.2 of [JSON]
ARRAY: an array, defined in Section 2.3 of [JSON]
ARRAY-VALUE: an element of an ARRAY, defined in Section 2.3 of [JSON]
NUMBER: a "number" as defined in Section 2.4 of [JSON]
INTEGER: an "integer" as defined in Section 2.4 of [JSON]
STRING: an "string" as defined in Section 2.5 of [JSON]

6.2.2. Reputation Structure

Using the above terms for the JSON structures, the syntax of a reputation object is defined as follows:
What we need...

• ...is a document that specifies how to use the primitives to specify JSON objects, as in the preamble.

• There’s another approach to it: draft-newton-json-content-rules

• I think that’s a more cryptic approach, but uses a formal language specification.

• We should pick the kind of approach we want to use, and write a specification soon, so other specs can be consistent.