DID Core Type System

2020 W3C DID WG

DID Core Type System Today

The abstract data model type system today is INFRA:

- Supports: nulls, bools, bytes, strings, lists, sets, maps.
- Does not support: numbers. *What!?*
- Is silent on: unknown properties

What Works Today

- Everything we want to represent has been representable using INFRA as the base model and then layering additional requirements on top (e.g., URI, XML DateTime, etc.)
- In general, folks seem to be more or less okay with it.

How to Fix Numbers

- There is an open issue on INFRA numbers.
- There will not be a definition of "number" before we are done.
- Suggested direction:
  - Define "number" as a Real Number, in the mathematical sense.
  - Implementations SHOULD limit number range to improve interoperability.
  - Specify ranges for integers and IEEE 754 floats (e.g., $[-2^{53}+1, 2^{53}-1]$)

How to Fix Unknown Properties

- Do we preserve unknown properties?
- Suggested direction:
  - Preserve unknown properties by converting to/from INFRA types
  - Throw an error if you can't convert a representation to/from INFRA or if doing so would result in information loss.
  - DID Methods MAY provide additional rules when processing unknown properties.