Unified Properties for the ALTO Protocol

draft-ietf-alto-unified-props-03

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Updates Overview

- Main updates from -01 (IETF 100) to -04 (IETF 101):
  - Document title: "Extensible Unified Property Map" → "Unified Properties"
  - ➢ Removed Section 3.4 "ANE Domain" and its domain registration from this document
  - Added and clarified error handling across the whole document, e.g.,
    - Add the error handling for Filtered Property Map (Section 5.6)
  - ➢ Clarified the relationship between "ALTO Domain Registry" defined in this document and the "ALTO Address Type Registry" defined in [RFC 7285]
  - Updated Section 7 Examples, e.g.,
    - Highlight the benefit of Unified Properties over standard endpoint property service (EPS) defined in Section 11.4 of RFC7285, due to inheritance support in UP
    - Added an example of the PID domain (Section 7.7)
    - Removed examples using ANE

Discussion: Where to Define Domains?

- Issue: Multiple new domains are emerging, including abstract network elements [draft-ietf-alto-path-vector], CDNi FCI footprints [draft-ietf-alto-cdni-request-routing-alto], and cellular addresses [draft-randriamasy-alto-cellular-adresses]. Where do we define these domains: in this document, or in the proposal drafts?

- Justification and approach:
  - This draft should be a minimal framework
  - To avoid the complexity of writing a new document to define domains (ipv4, ipv6, pid) already appeared in RFC 7285, they are defined in this document as a starting point
  - Any new address types/domains (e.g., ecgi, ane) are not defined in this document, but defined in their proposal drafts

Discussion: ALTO Domain Registry and ALTO Address Type Registry Relationship

- Issue: The concept of domains defined in this document is intended to be more general than the concept of ALTO address types defined in RFC 7285, but their relationship is not fully specified yet,
  - e.g., is the domain "ipv4" and "ipv4" address type the same?

	Identifier	Address Encoding	Hierarchy & Inheritance	Mapping to/from IPv4/IPv6
ALTO Domain Registry	x	x	x	
ALTO Address Type Registry	x	x (+allows prefix)		x

- Potential solutions:
  - Auto consistency: Mandate that the ALTO address types are a subset of ALTO domains. A new domain, if it is also a new type, must include all attributes of an address registration. It is then automatically added as a new address type as well.
  - ➢ Manual consistency: Two registrations are submitted, and the registrations state that they are consistent (i.e., domain with identifier "x" is the same as address type "x").

Next Steps

- Make the decision for the registry design
  - Collect WG feedback
- Progress towards WGLC

Backup

Response of Filtered Property Map

- Section 5.6: Response of Filtered Property Map
  - If the ALTO server does not define a requested property's value for a particular entity, then it MUST omit that property from the response for only that endpoint.
  - Add an error code: If the ALTO server does not support a requested entity's domain, it MUST return an E_INVALID_FIELD_VALUE error.