

Named Footprints

IETF 121

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Named Footprints Objective

- Several open caching use cases emerged that required advanced capabilities defining and addressing footprints
 - Distinct access networks under common dCDN management
 - Differentiated CDN layers (edge and “last-mile” cache layers)
 - CDN requirements by geography (e.g. GDPR)
- These use cases require
 - Footprints to be used consistently in metadata inside and outside of FCI (e.g. in configuration, logging, cache management interfaces)
 - Hierarchical footprint definitions
 - Complex footprint definition logic
 - Support for dynamically changing footprints

FCI Problem

- CDNI Footprints and Capabilities Advertising Interface (FCI) is defined in [RFC8008]
- RFC8008 defines basic CDN **capability** objects with **footprint** attributes attached to them as well as “push” & “pull” methods for FCI exchange, but doesn’t define an interface for that
- RFC9241 defines CDNI FCI protocol as an extension of Application-Layer Traffic Optimization (ALTO) protocol defined in RFC7285
 - RFC9241 introduces new footprint type “**altopid**” that uses addressable PID identifiers defined in an ALTO network map
- **CDNI is missing a RESTful FCI interface definition that can expose named footprints without using ALTO**

Proposed Solution

- Proceed with a separate draft that defines set of SVTA RESTful synchronous interfaces: bootstrapping, footprints & capabilities (FCI), configuration and cache management
- The FCI interface will expose addressable persistent footprint URIs that can be referenced from FCI and other interfaces
 - Retrieval of individual footprints and all footprints
 - Footprint hierarchy
 - Namespaces
 - Caching support
- Proceed with the named footprints draft to focus on the data model and metadata object encodings for named footprints, which will act as an alternative to ALTO network map hierarchy

v121 Next steps

- **RESTful interfaces draft**

- Interface definition
- Explore features for better support of very large footprint advertisements
- Review options to merge the draft with full non-ALTO FCI definition based on [SVTA2045] that covers both capabilities and footprints

- **Named footprint draft**

- Review for parts that need to be moved to the RESTful interfaces draft
- Address the need for non-ALTO footprint advertisement
- Incorporate current outstanding comments from the group

- **MEL draft**

- If adopted by WG, consider adding footprint-related support to it