

Named Footprints

IETF 120

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Background

- 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 protocol for transporting these objects
- 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
- The SVTA open caching architecture includes native RESTful definition of FCI [SVTA2045] that follows the RFC8008 footprint semantics

Problem Statement

- 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 in metadata inside and outside of FCI (e.g. in configuration, logging, cache management interfaces) in a consistent manner
 - Hierarchical footprint definitions
 - Complex footprint definition logic
 - Support for dynamically changing footprints

Scope

- Define CDNI footprints advertisement framework that is compatible with non-ALTO FCI implementations [SVTA2045]
- Key features
 - Footprints accessible via RESTful interface, jointly and individually
 - Hierarchical advertisement
 - Namespace support
 - Client-side caching support
 - Complex footprint expressions supported via CDNI MEL
 - Support for self-published geofeeds [RFC8805]

Next steps

- Interface definition
- Explore features to improve support for very large footprint advertisements
- Address the need for non-ALTO footprint advertisement
- Incorporate current outstanding comments from the group
- Review options to merge the draft with full non-ALTO FCI definition based on [SVTA2045] that covers both capabilities and footprints