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