CDNI Metadata Interface draft-ma-cdni-metadata-03

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Metadata Model Requirements

- META-9: association of Metadata to individual objects
  - support for non-wildcard URIs
- META-10: association of Metadata to sets of objects
  - support for wildcard URIs
- META-11/12: deterministic inheritance with precedence
  - longest prefix match (w/ file extension)
  - hierarchical and/or ordered lists of full regex patterns
- META-13: Metadata rejection
  - capabilities advertisement of Metadata support
  - upstream trigger for denied delegated requests
- META-16: opaque Metadata
  - mandatory to enforce vs. ignorable
  - distribution of unsupported Metadata in cascaded CDNs

Proposed Metadata Model

- Flat structure with Metadata objects that contain:
  - **URI**: URI (prefix + extension) to which the object matches
  - **Name**: identifying the type of Metadata object it is
  - **Value**: an object with semantics specific to the Name
  - **MustEnforce**: flag indicating that if the CDN does not support this Metadata, it must not deliver content for which this Metadata is defined
  - **Priority**: field used to create explicit orderings for lists
  - **TTL**: field use to set the cacheability of this Metadata
- Metadata objects are atomic and override other metadata objects with the same name
  - Metadata are selected by longest URI prefix + extension match
  - Duplicates with the same URI are ordered by priority.

Next Steps

- Work with merged draft authors to address open issues with Metadata protocol and data model:
  - Better define object override rules
  - Better define Metadata extension rules.
  - Evaluate Metadata object optimizations
  - Define best practices for object hierarchies
  - Define pass-through rules for opaque Metadata
  - Articulate trade-offs between TTL pull and triggered push implementations for Metadata refresh
  - Document expected operating environments and scenarios (number of domains, metadata, dCDNs, updates, etc.)