

CDNI Metadata Interface

draft-cjlmw-cdni-metadata-00

CDNI Working Group
IETF 84 Vancouver, Canada
July 31, 2012

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Result of Two Merged Drafts

draft-caulfield-cdni-metadata-core-00

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draft-jenkins-cdni-metadata-00

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Metadata Overview

- Metadata helps a CDN respond to:
 - Redirection Requests (i.e. request routing)
 - Content Requests
- Metadata includes:
 - Acquisition policies (origin server info)
 - Delivery policies (availability window, geo-blocking)
- Metadata Interface enables:
 - exchange of Metadata between CDNs

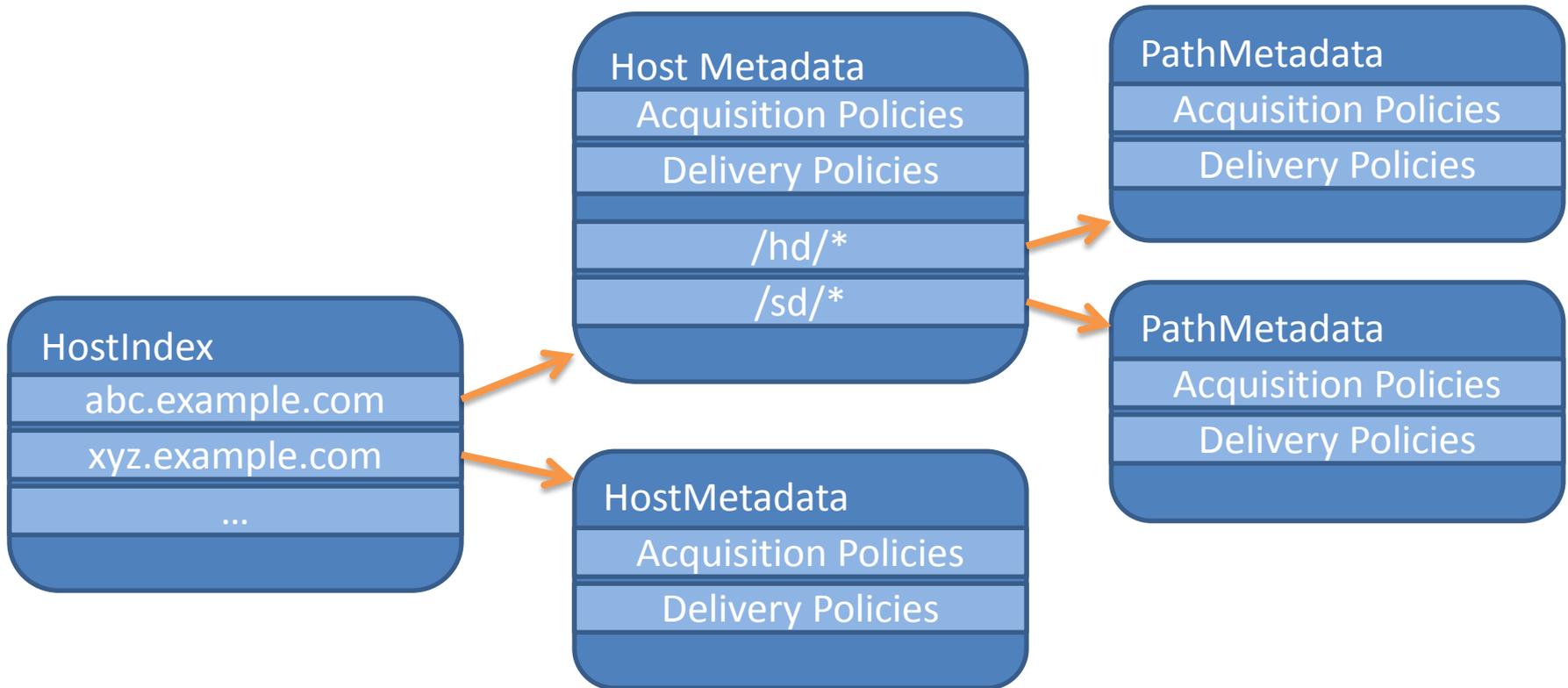
Design Principles

1. Metadata Object Cacheability
2. Deterministic Mapping from Content to Metadata
3. Natural Fit for both HTTP and DNS Redirection
4. Minimal Duplication of Metadata
5. Leverage Existing Protocols (HTTP, XML, JSON)

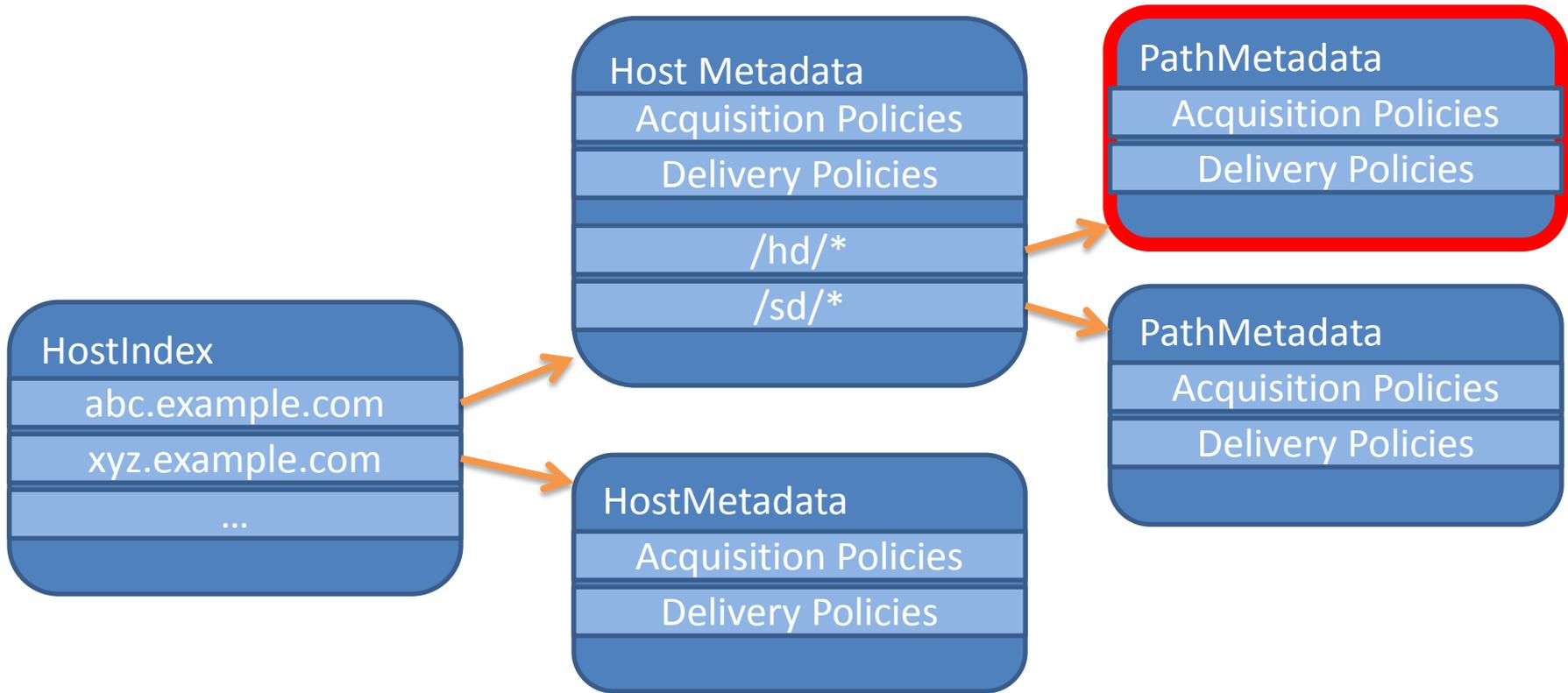
Data Model Assumptions

- Each Host served by a CDN will have distinct metadata
 - **abc.example.com** and **xyz.example.com** have different policies
- Metadata will vary based on resource path
 - **http://abc.example.com/hd/*** and **http://abc.example.com/sd/*** have different policies

Data Model

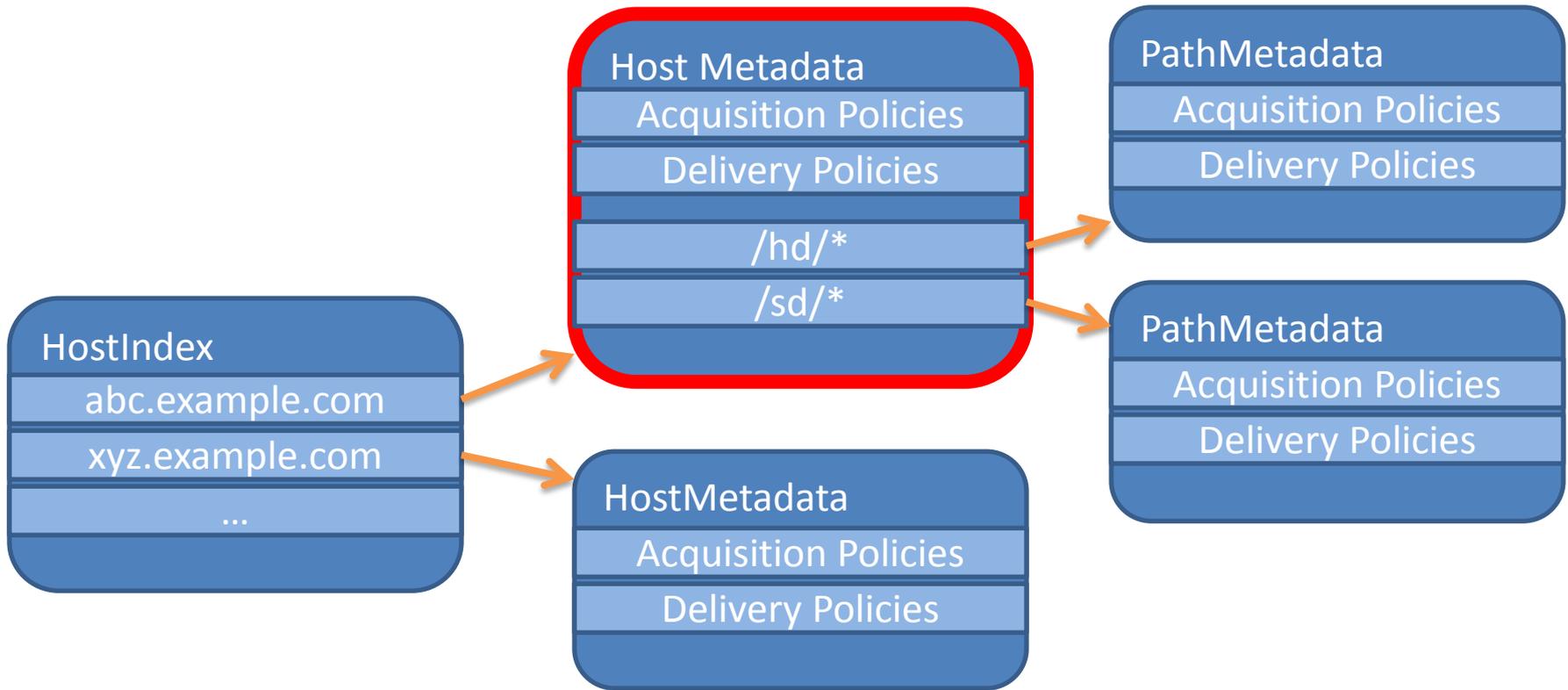


Data Model



`http://abc.example.com/hd/movie.mpg`

Data Model



`http://abc.example.com/music/track.mp3`

Transport

- HostIndex serves as starting point for all metadata lookups
- Downstream CDN is configured with or discovers the URI of the upstream CDN's HostIndex
 - e.g. `http://ucdn.example.com/metadata/index`
- HTTP GET used to fetch HostIndex then HostMetadata, etc

Encoding

- XML vs. JSON
- Draft provides examples of both encodings
- **Goal:** select a single encoding for next revision

Metadata Properties

- Properties derived from requirements document:
 - Content Acquisition Sources
 - Location Availability
 - Time Window Availability
 - Client Authentication
 - Delivery Protocol
- Draft enables extensibility for custom / proprietary properties

Next Steps

- XML vs JSON decision
- Extensibility rules clean-up
- Inheritance rules clean-up