

Best Practices and Requirements for delivering Long Tail personalized content delivery over CDN Interconnections

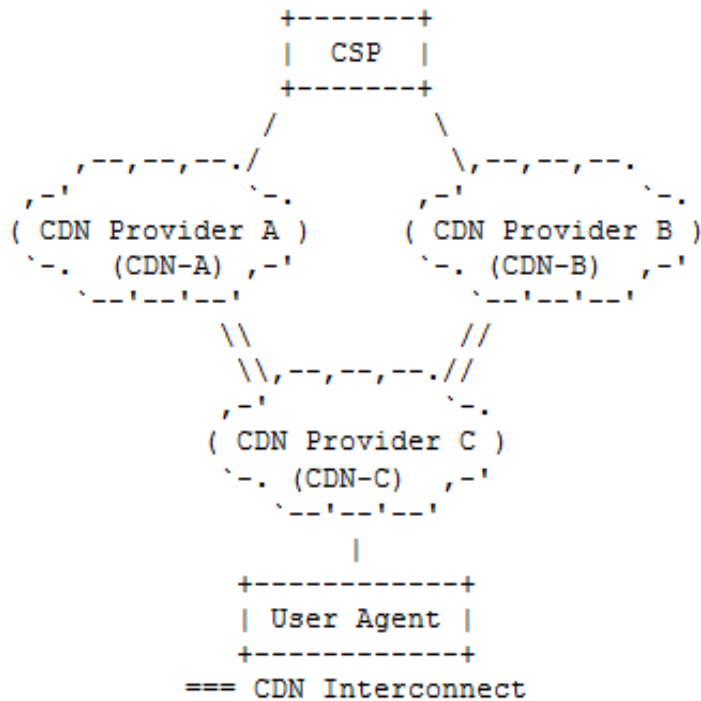
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PROBLEM STATEMENT

- Most popular content of interest to lot of users
 - Amenable to caching
- Long tail personalized content of interest to only a few users
 - Not amenable to caching
- Need for examining best practices and requirements for delivering long tail personalized content in CDNI

SUGGESTED TECHNIQUE

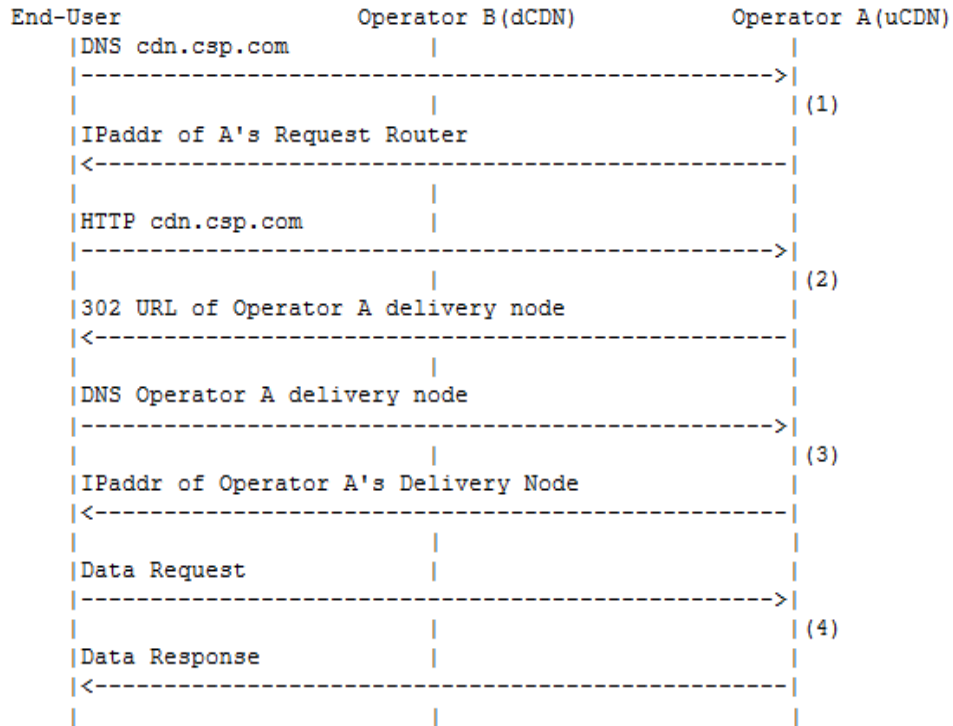


- Each CDN has a local monitoring server which monitors the end user content usage in the CDN.
- By monitoring the content usage, each CDN determines whether or not the content should be cached locally in the CDN.
- Through the CDNI interface, each dCDN propagates this information to the uCDN(s).
- Thus, the uCDN(s) determine the dCDNs in which the content should be cached/not cached.

METADATA INTERFACE REQUIREMENT

- The CDNI Metadata Distribution interface shall provide indication by the dCDN to the uCDN whether the content should be cached or not cached in the dCDN.
- This information should be on a per URL basis. The default behavior would be to cache the content in the dCDN

REQUEST ROUTING INTERFACE CHANGES



- A Request Router for Operator A (which is the uCDN) processes the HTTP request. The HTTP URL metadata is looked up in a metadata database.
- For long tail personalized content, the metadata database lookup result indicates that the content should not be cached by the dCDN.
- The Request Router for Operator A recognizes that the end-user is best served by the uCDN without any caching the in dCDN and returns a `302` redirect message with the URL of Operator A delivery node.
- The end-user proceeds to retrieve the data from Operator A delivery node.

OTHER TECHNIQUES

- uCDN has a fixed monthly charging agreement with the dCDN and the dCDN has enough storage capacity
 - Cache control of the long tail content is not that necessary, but let each CDN decide whether to cache the content or not locally. If the user request is redirected to dCDN but the dCDN does not cache the content, the dCDN can acquire the content from its uCDN.
- Static control may be desired for long tail content
 - CSP can assign a second-level domain name for such kind of content, e.g. `nocache.example.com/contentID`, so that when this content is injected into CDNI system, CDN would determine whether to cache it or not according to this domain name.

QUESTIONS, SUGGESTIONS & NEXT STEPS

- Questions ?
- Suggestions
- Adopt as a work item in CDNI
 - Network Operator interest
 - Vendor interest