

ALTO for CDNi Request Routing

draft-seedorf-alto-for-cdni-00

IETF 82, Taipei, Taiwan

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Introduction

- The CDNi problem statement envisions four interfaces to be standardized:

- CDNI Request Routing Interface
- CDNI Metadata Interface
- CDNI Logging Interface
- CDNI Control Interface

→ ALTO can play a role here
→ Focus of this draft

- Goals of **draft-seedorf-alto-for-cdni-00**

- show in what cases ALTO can be beneficial for CDNi request routing
- Provide concrete examples of how to integrate ALTO in CDNi request routing
- Examples are based on current use cases and request routing proposal documents

- Overall Goal

- Start discussions on how ALTO can be useful to optimize CDNi request routing

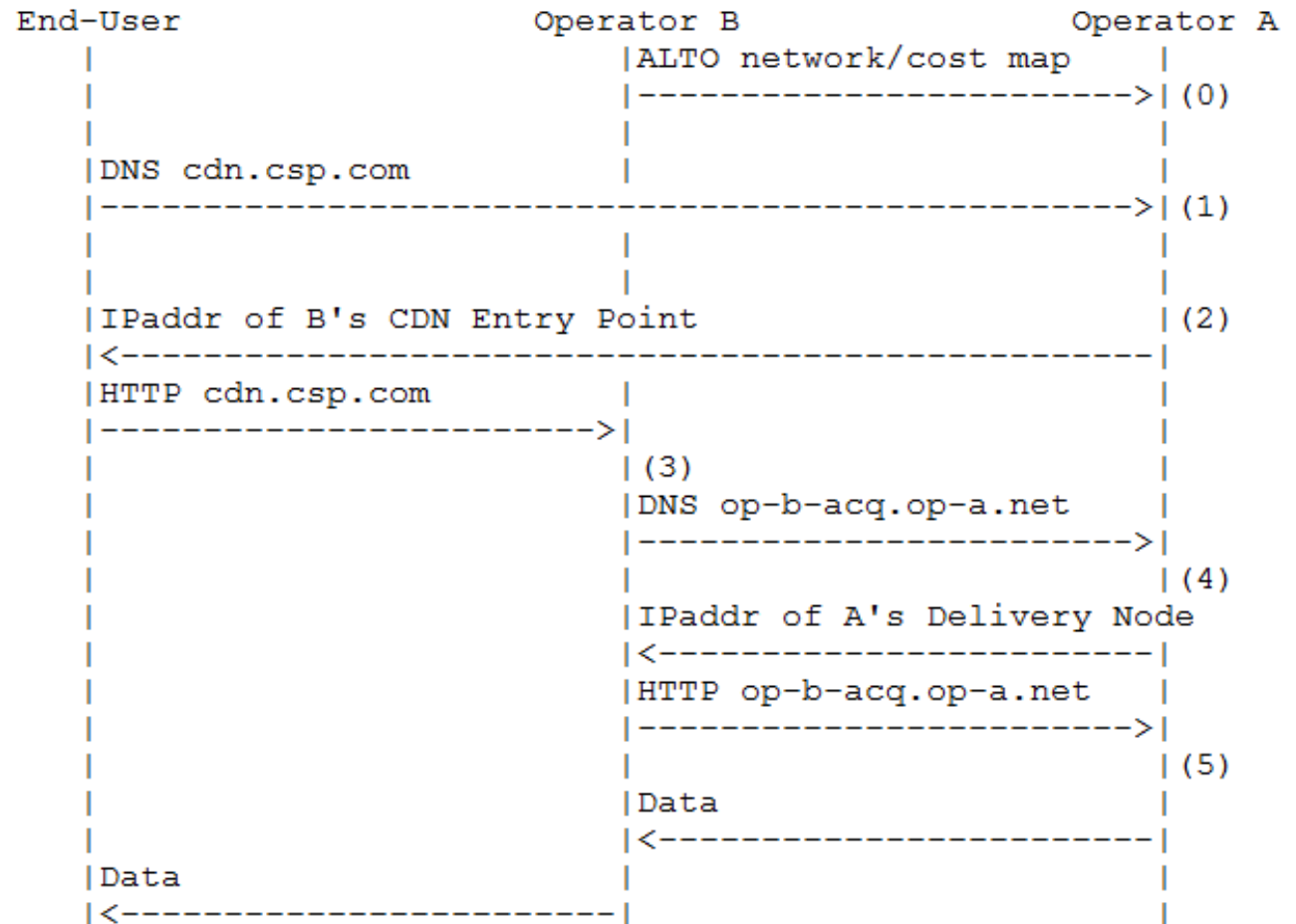
CDNi Request Routing

"The CDNI Request Routing interface enables a Request Routing function in an upstream CDN to query a Request Routing function in a downstream CDN to determine if the downstream CDN is able (and willing) to accept the delegated content request and to allow the downstream CDN to control what the upstream Request Routing function should return to the User Agent in the redirection message" (draft-ietf-cdni-problem-statement)

- Mainly two tasks
 - Determining if the downstream CDN is willing to accept a delegated content request
 - Redirecting the content request coming from an upstream CDN to the proper entry point or entity in the downstream CDN
- ALTO applies to the "Footprint & Capabilities Advertisement" part of the CDNI Request Routing Interface ("Asynchronous operations to exchange routing information" as defined in draft-davie-cdni-framework)

ALTO to simplify DNS-based Request Routing Redirection

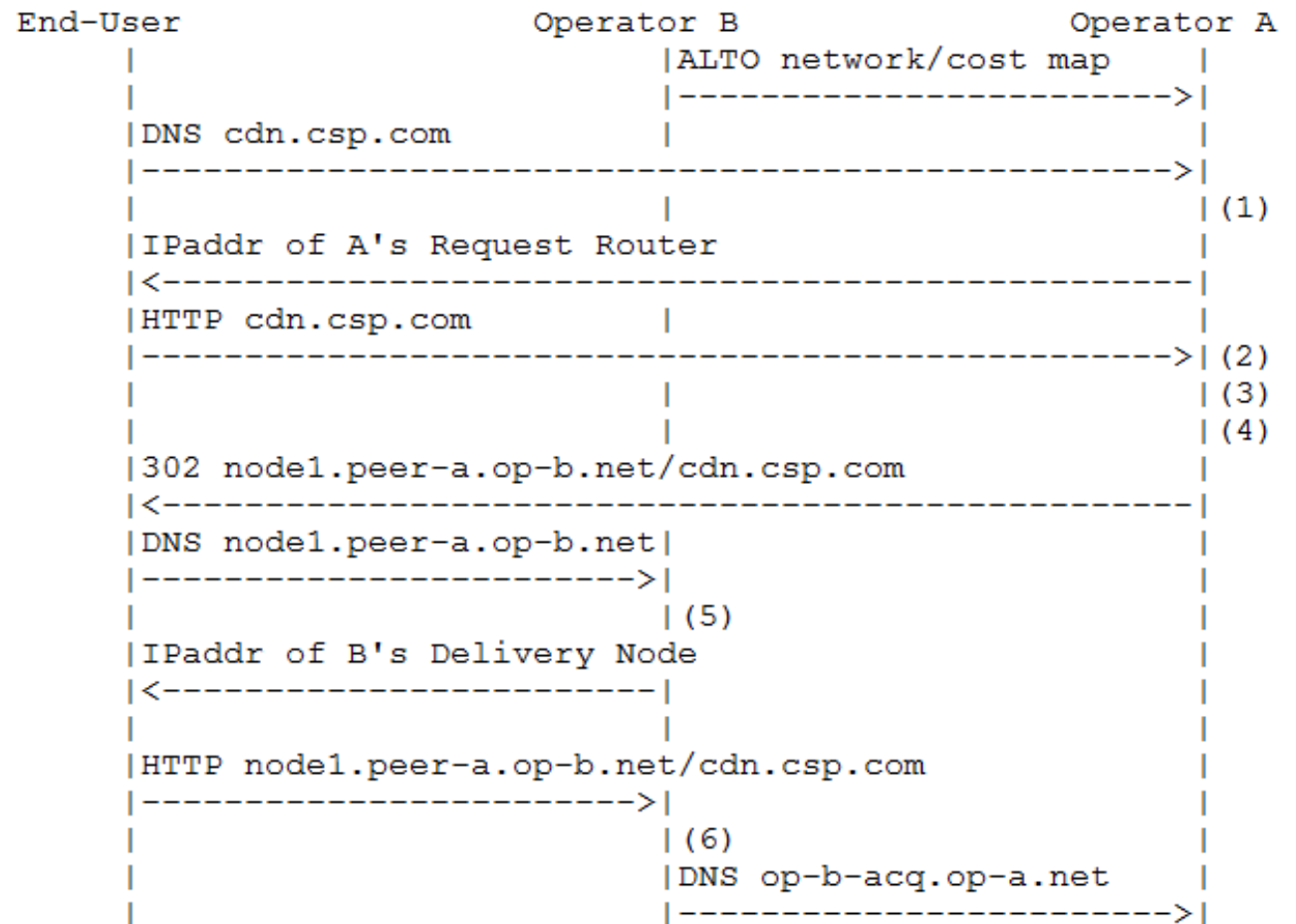
- downstream CDN provides the upstream CDN an ALTO network and cost map (0)
- ALTO map provides sufficient information for the upstream CDN to directly return a suitable IP-address for the CDN entry point in the downstream CDN (2)



Message sequence based on draft-davie-cdni-framework (fig. 5)

ALTO to simplify http-Redirection for Request Routing

- ALTO maps potentially enable the upstream CDN to directly return - as a response to an http request - the hostname of the suitable cache (delivery node) in the downstream CDN
- The use of ALTO would enable to avoid several http-302 redirections and DNS resolutions by the end user



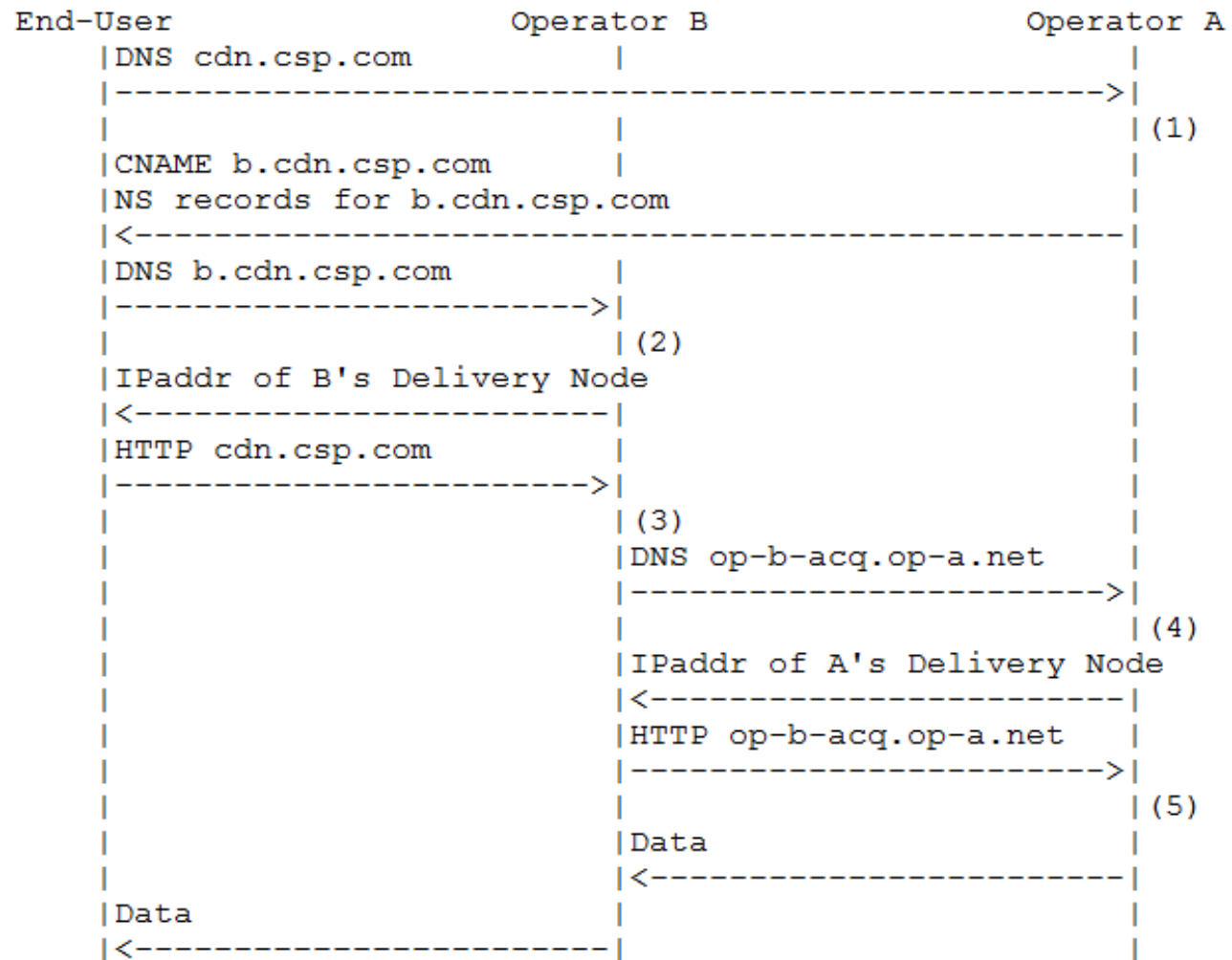
Message sequence based on draft-davie-cdni-framework (fig. 3)

Discussion & Next Steps

- Discussion
 - 1) Agreement that ALTO can be beneficial for CDNi request routing?
 - 2) Discussion on concrete examples
 - 3) Discussion on how to proceed
- Next steps
 - More use cases?
 - e.g. ALTO to support Selection of Downstream CDN
 - Make examples more concrete
 - e.g. with actual network/costs maps

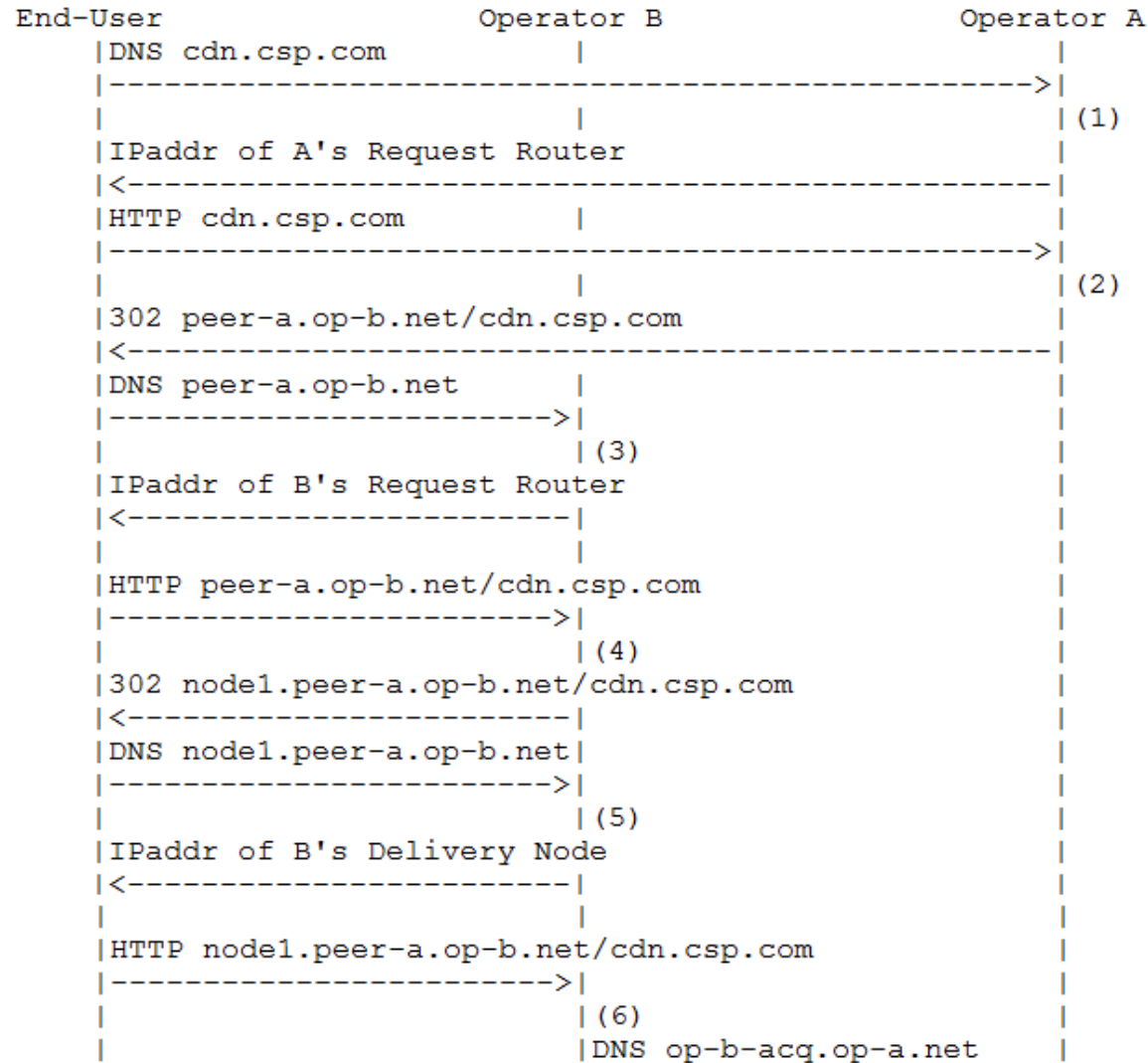
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DNS-based Request Routing Redirection without ALTO



Message sequence from draft-davie-cdni-framework (fig. 5)

http-based Request Routing Redirection without ALTO



Message sequence from draft-davie-cdni-framework (fig. 3)