

# Open Caching: Enabler for OTT Streaming Video

# Streaming Video Alliance

- ▶ Streaming Video Alliance (SVA) is an ecosystem for addressing OTT streaming at scale
- ▶ Within SVA, Open Caching Working Group focuses on interoperability among Content Providers, commercial CDN operators, technology vendors and network service providers for delegation of and delivery of streaming video with the goal of improving latency and QoE
- ▶ From an implementation POV, Open caching is fundamentally rooted in CDNI RFCs wherein Open Caching is a special case of CDNI where the upstream CDN is a commercial CDN (or a content provider) and downstream CDN is the ISP hosted CDN

# Case of improved Interoperability

Open Caching complaint solutions implement CDNI RFCs and in some cases have identified enhancements that improves interoperability between uCDN & dCDN such as:

## CDNI Request Routing I-D

- ▶ Augments [RFC8008](#), such as:
  - Defines a new object for dynamic footprint advertisement versus publishing once during bootstrap
  - Defines mechanism for uCDN to publish a fallback target server to the dCDN to avoid redirect loops

## CDNI Control Interface/Triggers I-D

- ▶ Extends [RFC8007](#) by adding new content selection options to the trigger specification
- ▶ Adds geo limit on content distribution & specifies granular controls for prepositioning
- ▶ Adds a generic extension mechanism that enables adding future functions for controlling the trigger execution

# Opportunities and challenges

## Opportunities

- ▶ HTTPBIS Working Group
  - [The Cache HTTP Response Header](#)
  - [RFC 8586 \(CDN Loop Prevention\)](#)
- ▶ Certificate Management
  - Work in progress within TLS [[subcerts](#)] and ACME [[STAR](#)] CDNI [[HTTPS Delegation](#)] working groups
- ▶ Performance Metrics
  - [ALTO Performance Cost Metrics](#)

## Challenges

- ▶ Consistent interpretation of HTTP redirect directive among HAS video players [[RFC 3986](#). Sec 5.1.2]
- ▶ Bitrate shifts and retransmission impacts end-user QoE
- ▶ Virtual Reality: 360° video requires high bandwidth but low latency

# Why MOPS?

- ▶ Provides a landing spot within IETF to bring operational issues and engage with a larger pool of experts
- ▶ Point to an existing Standards on a specific issue or get redirected to a working group that can best deal with the problem

THANK YOU