Fresh Drafts of the CTA/SVA

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CTA WAVE CMSD/CAT/SMT WG for IETF MOPS WG

2022-07-29
Fresh Drafts

- Combined effort of:
  - Software Video Alliance; and
  - Consumer Technology Association: Web Application Video Ecosystem

- Hot Stuff:
  - Common Media Server Data (CMSD)
  - Common Access Token (CAT)
  - Streaming Media Tracing (SMT)
Common Media Server Data

- The other half of Common Media Client Data (CTA-5004)
- Nearing completion
- Carries data from origins toward clients
- Split into two headers:
  - CMSD-Static: Data about the media object.
  - CMSD-Dynamic: Data about the connection transferring the object.
CMSD-Static

List of keys:
► Origin ID
► Next Object, Path and Range (for pre-caching)
► Expected Request Range (for range-req alignment)
► Object Type
► Stream Type
► Streaming Format
► Availability Time
► Held Time (for LL-HLS)
► Duration
► Encoded Bitrate
► Init Segments
► Is Startup
► Session ID
► Target Latency
► Version

These are attributes of the object and the origin’s response.
CMSD-Dynamic

List of keys:

- Estimated Throughput
- Round Trip Time
- Max Suggested Bitrate
- Time to First Byte Sent
- Duress (clients advised to shift away)
- Server-induced delay

These are attributes of the specific response and are added together per-server, like Proxy-Status and Cache-Status.
Common Access Token

- URI Signing Token
- Focus on Streaming Media uses
- Goal is to have a single token that covers all the current use cases
- Adoption is key
Claims

Core:
- Issuer
- Subject
- Audience
- Expiration
- Not Before
- Issued At
- CWT ID

General:
- Version
- Network
- URI Regex
- URI Hash
- Method
- ALPN
- Header Regexes
- Geographic Country
- Geographic Detail
- TLS Public Key
Composition Claims

*These are documented as CAT Claims, but are fully generic.*

- Critical: reference to other required claims
- Encrypted: COSE object with other claims inside
- And, Or, and Nor: list of claims for boolean logic

Minimum limits for implementations require four levels of nesting and fifty list elements, but token length maximums can kick in sooner.
Action Claims

- Renewal: none, cookie, or header
  - Cookie renewal now has arbitrary parameters that can be specified
- if: control response when content is not served
  - Can be used to redirect or set specific error code
  - Still being worked on
Streaming Media Tracing

- Very new group, no specification language set yet
- Defines three major scopes
  - Pull: Tracing in-band for HTTP requests/responses
  - Export: Sending tracing data elsewhere
  - Push: Tracing in-band for media as it streams toward the origin
- Collect and report observational data, even if not immediately actionable.
Agglutinative Headers

- Header: name;param=value, nextname;param=value
- Existing work: Via, Cache-Status, Proxy-Status
- New stuff: CMSD-Dynamic, SMT Pull header
- Systems that support more than one of these should use the same value in each.
Thank You

Questions?