Common Catalog Format

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https://github.com/moq-wg/catalog-format
Agenda for this session

● Present updates and changes since IETF #118
  ○ PR#32 - adds in support for RFC6902 JSON patching as the delta update mechanism for catalogs.
  ○ PR#34 - allowing relative track names and inherited namespace

● Review PRs that are open
  ○ PR #39 - Adds an IANA registry for catalog fields
  ○ PR #40 - Add a new field to indicate if delta updates are to be expected
  ○ Add a new root object to hold inheritable track attributes

● Adoption of the Internet Draft

The catalog spec repo
https://github.com/moq-wg/catalog-format

I-D available at https://datatracker.ietf.org/doc/draft-wilaw-moq-catalogformat/02/
Merged PR#32 - adds in support for RFC6902 JSON patching as the delta update mechanism for catalogs.

At IETF#118 we debated two standardized update mechanisms for JSON files - RFC 6902 - JSON Patch and RFC 7396 JSON Merge Patch. Consensus was in adopting RFC 6902, which PR#32 implemented.

Consequences of this decision

1. Sequence and parentSequence fields have been removed. We now rely on moq-transport Object ID to convey sequence.
2. Delta updates now look like the json to the right, which adds a new track and removes an existing track.
3. Note that removal is via array index, which can be adjusted by previous operations.

```json
[ 
  { "op": "add", "path": "/tracks/-", "value": { "name": "slides", "selectionParams": { "codec": "av01.0.08M.10.0.110.09", "width": 1920, "height": 1080, "framerate": 15, "Bitrate": 750000 }, "renderGroup": 1 } },
  { "op": "remove", "path": "/tracks/0" }
]
```
Merged PR #34: Allowing relative track names and inherited namespace

This PR makes the namespace field optional in a catalog. If namespace is absent, then the namespace is inherited from the catalog namespace. If the catalog full track name is `premiergaming/gamer34/catalog` and it looks like this:

```json
{
    tracks: [{“name”:”video”},{“name”:”audio”}]
}
```

Client would subscribe to

`premiergaming/gamer34/video`

`premiergaming/gamer34/audio`
Open PR #39 - Adds an IANA registry for catalog fields

Purpose is to allow new fields to be added in the future without having to revise the RFC.

This document creates a new IANA registry for the Common Catalog fields. The registry is called "MoQ Common Catalog Fields". This registry is managed by the IANA according to the Specification Required policy of [RFC5226]. The initial entries in the registry are:

| Descriptive Name     | Field Name           | Required | Location | JSON type | Specification                                                   |
|----------------------|----------------------|----------|----------|-----------|==================================================================|
| Catalog version      | version              | yes      | R        | String    | https://datatracker.ietf.org/doc/draft-wilaw-moq-catalogformat/  |
| Tracks               | tracks               | opt      | R        | Array     | https://datatracker.ietf.org/doc/draft-wilaw-moq-catalogformat/  |
| Catalogs             | catalogs             | opt      | R        | Array     | https://datatracker.ietf.org/doc/draft-wilaw-moq-catalogformat/  |
| Track namespace      | namespace            | opt      | RTC      | String    | https://datatracker.ietf.org/doc/draft-wilaw-moq-catalogformat/  |
| Track name           | name                 | yes      | TC       | String    | https://datatracker.ietf.org/doc/draft-wilaw-moq-catalogformat/  |
| Track operation      | operation            | yes      | RT       | String    | https://datatracker.ietf.org/doc/draft-wilaw-moq-catalogformat/  |
| Track label          | label                | opt      | RT       | String    | https://datatracker.ietf.org/doc/draft-wilaw-moq-catalogformat/  |

*The specification link is just a placeholder until the RFC is published.*
Open PR #40 - Add a new field to indicate if delta updates are to be expected

Purpose is to inform a player if it is necessary to support the delta updates (patch) mechanism in order to understand future catalog updates. This field should be omitted if it is FALSE.

<table>
<thead>
<tr>
<th>Field</th>
<th>Name</th>
<th>Required</th>
<th>Location</th>
<th>JSON type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supports delta updates</td>
<td>supportsDeltaUpdates</td>
<td>opt</td>
<td>RC</td>
<td>Boolean</td>
</tr>
</tbody>
</table>

```json
{
    "version": 1,
    "sequence": 0,
    "catalogs": [
        {
            "name": "catalog-for-format-one",
            "namespace": "sports.example.com/games/08-08-23/live",
            "streamingFormat": 1,
            "streamingFormatVersion": "0.2",
            "supportsDeltaUpdates": true,
            "renderGroup": 1,
            "packaging": "loc",
            "tracks": [ ...
```
Open PR #42: Add a new root object to hold inheritable track fields.

- In the current design, any track fields such as selectionParams, initTrack, renderGroup, packaging etc can be added at the root level.
- **This design does not promote extensibility as it prohibits adding future fields to the root that should not be interpreted as inheritable track fields.**
- PR adds a new root object called "commonTrackProperties" to explicitly hold fields intended to be inherited by all tracks.
- These common objects will usually be K/V fields, however they may also be more complex custom-defined objects.
Evolution of track field inheritance

Non-inheritance (still valid)

Prior inheritance scheme

PR#42 inheritance scheme
Call for Adoption

Chairs initiated a call-for-adoPTION on Feb 19 for Internet Draft available at https://datatracker.ietf.org/doc/draft-wilaw-moq-catalogformat/02/

Positive feedback received.

Chairs issued notification of adoption on March 4th.

Thanks y'all!

New draft available at https://datatracker.ietf.org/doc/draft-ietf-moq-catalog after IETF #119

Please review current PRs and add issues/contributions of your own.