UltraViolet Content Provider Implementation Guide

UltraViolet Integration Basics

Version 1.0 – 9-August-2016

Contents

1 Introduction

This implementation guide introduces the key requirements for Content Providers integrating with UltraViolet. It will help you focus on the specific parts of the UltraViolet specifications that are most important for Content Providers. (Section 3 indicates which portions to ignore.)

1.1 The Basics

The primary UltraViolet *roles* are **Content Provider** and **Retailer.** (See Essential UltraViolet for more information about UltraViolet roles.) A Content Provider publishes assets (movies, TV episodes, etc.) into the ecosystem, and a Retailer creates rights tokens that reference assets. Retailers and Content Providers implement *Nodes* that communicate via a REST API with the UltraViolet Coordinator, using XML-based resources.

To communicate with the Coordinator, a licensee must be *onboarded* to get a TLS certificate and a Node ID for each of the Coordinator environments (test and production). Onboarding is done by filling out the *Node Activation Request Form*, which includes submitting a CSR (certificate signing request) for the TLS certificate. (See separate onboarding docs and Node Activation Forms for details.)

The Node and the Coordinator mutually authenticate using TLS when the Node calls Coordinator APIs. (I.e., the Node must use a client-side TLS cert and verify a signature from the Coordinator). Content Provider APIs are related to *assets* (content) and *metadata*, so the user-focused SAML authentication requirements don't apply to Content Provider Nodes. (I.e., you can ignore the SAML sections of the of the Node Activation Form and you don't need to do anything with Security Tokens.)

Retailers are responsible for creating UltraViolet rights via transactions that may include electronic sell-through (EST), disc code redemption, and disc-to-digital conversion. Retailers typically provide streaming and download fulfillment for rights they sold and for rights sold by other Retailers.

1.2 Additional Sources of Information

After reading this document, review the following documents, available at www.uvcentral.com/public. Keep in mind that some of these documents may contain old roles and requirements that no longer apply (see 2.5).

- Essential UltraViolet – introduction

- System Specification [DSystem] – ecosystem overview

- Coordinator API Specification [DCoord] (available on request from DECE)

- Message Security Mechanisms Specification [DSecMech] section 3.4.2 only (the remainder does not apply to Content Providers)

- Implementation Requirements – part of the UltraViolet License Agreement

2   Content Provider Functions

2.1   Core Content Provider Functions

Content Providers perform the following functions in the Ecosystem:

- License content to Retailers and provide avails information

- Publish content asset IDs (ALIDs) and associated metadata to the Coordinator

2.1.1   License Content to Retailers

Content licensing agreements between you and Retailers are largely independent of UltraViolet, but you must abide by obligations in your UltraViolet License Agreement.

Provide information to each of your licensed Retailers indicating which titles come with UltraViolet rights. The necessary core information for each title is the ALID (the asset ID, similar to a SKU) and the corresponding CID (the metadata content ID). You define the ALIDs and CIDs. EIDR is strongly recommended but is not required. (See 2.1.2 for how to define and publish IDs.)

The information you publish to the UltraViolet Coordinator indicates which profiles (SD, HD, UHD) are available for a given title, but you may wish to also include this in your avails feed. UltraViolet supports additional profile parameters for HD and UHD: *HighFrameRate, HighDynamicRange, WideColorGamut, NextGenAudio,* and *ThreeD*. If you want retailers to set any of these profile parameters when they create an UltraViolet rights token, you must inform them. (The default is for these profile parameters to not be set.)

2.1.1.1   Rights Management

Because users can link and unlink their Retailer accounts from their UltraViolet Library, Content Providers need to tell Retailers how to manage previous Retailer rights when linking and how to manage UltraViolet rights when unlinking. A common approach is to grant "dual rights" to Retailers, allowing both a Retailer-specific right and an UltraViolet right as a result of a user transaction. While the user's UltraViolet Library is linked to the Retailer, any UltraViolet rights created by the Retailer will mirror the rights in their own system for the same content. When the user's UltraViolet Library is unlinked from the Retailer, the Retailer-specific rights remain available to the user within the Retailer's system. (Of course the UltraViolet rights remain available to all other Retailers.)

As an alternative to dual rights, you may wish to allow the Retailer to copy all rights for your content when the user links or unlinks, regardless of which Retailer created them. Keep in mind that this can create a situation where a single UltraViolet Library can be repeatedly linked and unlinked from any number of retailer accounts, copying rights each time. To avoid this situation, it's recommended that you establish link limits. One relatively simple approach is to not allow a Retailer to copy UltraViolet rights created by other Retailers until a user's account has been linked for a certain length of time, such as 6 months.

You may choose to restrict certain rights, such as from disc code redemption and disc-to-digital conversion, to the UltraViolet ecosystem. In this case you need to make it clear to your Retailers that

they can't put a second right into their own system. As long as the UltraViolet user remains linked to the Retailer, those rights will be available through the Retailer's service, but if the UltraViolet user unlinks, the rights will "disappear" at that Retailer. Of course if the user relinks, the rights will reappear at that Retailer.

2.1.1.2 Prior Purchase Conversion

You should make it clear to your Retailers how to handle prior purchase of content that comes with UltraViolet rights. For example, a user may have used a Retailer's service prior to linking their UltraViolet Library, and bought 6 titles: 4 with UltraViolet rights and 2 without. When the user links their UltraViolet Library to that Retailer, the Retailer creates 4 new UltraViolet rights tokens for the prior purchases. You should ensure that Retailers do the conversion *one time only*, to avoid the situation where users can link and unlink multiple UltraViolet Libraries to a single Retailer account to repeatedly copy rights.

The prior purchase scenario also applies when you make UltraViolet rights available for content already in the market. For example, if one of your titles was previously available for EST without UltraViolet rights, and you make it available through UltraViolet, you may wish Retailers to convert previous purchases to UltraViolet for users who have linked their UltraViolet Libraries. This is best communicated to Retailers as part your avails information.

2.1.1.3 Stream Tracking

The UltraViolet Coordinator can track streams from each Retailer, across all Content Providers. It's up to you whether or not to take advantage of this central tracking feature. Retailers must report streams to the Coordinator unless you specifically exempt them from the requirement. You can either have Retailers respect Coordinator enforcement of the system limit, which is the default requirement if you don't specify otherwise in your bilateral agreement, or you can allow Retailers to ignore the error response and instead base their behavior on the number of simultaneous streams reported to them by the Coordinator. The current Coordinator-enforced limit is 12 simultaneous streams.

2.1.1.4 Streaming-only Services

UltraViolet supports streaming-only services (the LASP role when not licensed along with the Retailer role). In this case the Content Provider allows the LASP to stream content purchased at other Retailers. The Content Provider must provide a subset of retail avails information —at minimum the ALIDs and CIDs— to the standalone LASP so it can identify content in UltraViolet users' Libraries. The EMA Avails metadata specification (http://movielabs.com/md/avails/) is recommend for transferring avails data.

2.1.2 Publish Content Metadata

You must publish asset IDs and metadata to the Coordinator. Some Retailers obtain content metadata from the Coordinator. Other Retailers obtain metadata from other sources, but they still need asset IDs in the Coordinator to map to their own catalog.

There are two types of asset IDs:

- ALID (asset logical ID, similar to a SKU) and
- CID (the metadata content ID).

You define the ALIDs and CIDs for your content. Using EIDR IDs is recommended but not required. See (eidr.org and uvcentral.com/content/asset-ids-content-structure-metadata-and-bundles for more information.)

Asset ID examples:

ALID	CID
urn:dece:alid:eidr-s:6BCE-B1B3-511E-E602-B265-M	urn:dece:cid:eidr-s:6BCE-B1B3-511E-E602-B265-M
urn:dece:alid:eidr-x:F84E-4371-B54D-717B-38FD-8:1	urn:dece:cid:eidr-s:F84E-4371-B54D-717B-38FD-8
urn:dece:alid:org:anchorbayent:WALKINGDEAD_EP_04_16	urn:dece:cid:org:anchorbayent:WALKINGDEAD_EP_04_16
urn:dece:alid:org:lionsgate:2490021-205997	urn:dece:cid:org:lionsgate:2490021-205997

Individual rights tokens are represented by an ALID and CID pair. Additional content metadata not directly associated with a right, such as TV seasons and movie franchises, is represented only by a CID.

UltraViolet rights for television are granted at the episode level. You must create one metadata entry (CID) for the series and a metadata entry for each season. You must not create ALIDs for season or series. Episode metadata is connected to higher-level metadata using the Parent CID value.

If you share content with other Content Providers, as with regional distribution agreements, you can either agree that one Content Provider creates the ALIDs/CIDs and manages the metadata or you can each create redundant entries in the system for the same content, but with different IDs.

2.1.2.1 API Overview

2.1.2.1.1 Content Metadata

- **Create a CID** with corresponding metadata such as title, genres, cover art, ratings using the *MetadataBasicCreate* API. Most of the data is localizable, so you should provide titles, genres, etc. for languages in each country where you license or intent to license your content. Cover art is also localizable, so if you have localized images you should include them.
  - You can update metadata later, so it's not necessary to provide all languages on first publication.
- Update published content metadata using the *MetadataBasicUpdate* API.
- Delete a CID using the *MetadataBasicDelete* API. This can only occur if no associated ALID(s) persist and no rights tokens reference the CID.
- Only the Content Provider node that created the content metadata can perform updates and deletions.
- The *MetadataBasicList* API returns the list of all CIDs. To retrieve the content metadata for an individual CID use the *MetadataBasicGet* API.

Required Metadata Elements
- ✓ ContentID
- ✓ UpdateNum (when adding a revision to an existing resource)
- ✓ TitleDisplay60 (localized)
- ✓ TitleSort (localized)
- ✓ ArtReference (at least one reference to an image; preferably the standard six image sizes per section 3.2 of the Content Metadata specification: 96×144, 112×160, 192×288, 224×320, 800×1200, 840×1200)
- ✓ Summary190 (localized)
- ✓ Summary400 (localized)
- ✓ CopyrightLine (localized)
- ✓ RunLength

- ✓ ReleaseYear
- ✓ WorkType
- ✓ SequenceInfo (if WorkType is 'Season' or 'Episode'; recommended for 'Supplemental' and 'Song')
- ✓ Parent (if WorkType is 'Season', 'Episode', 'Promotion', 'Excerpt' or 'Supplemental')

Recommended Metadata Elements
- ✓ RatingSet
- ✓ TitleDisplayUnlimited (if TitleDisplay60 is too short; localized)
- ✓ Summary4000 (if Summary400 is too short; localized)
- ✓ Genres (localized)
- ✓ OriginalTitle (**only** if the content was originally released with a different title; localized)

2.1.2.1.2 Logical Asset

- **Create an ALID** and associate it with a CID and one or more media profiles (SD, HD, UHD) using the *MapALIDtoAPIDCreate API*
  - o Do not create ALIDs for abstract content work types not directly associated with content: season, series, franchise, and collection.
  - o Media profiles are discrete, so HD doesn't include SD, and UHD doesn't include SD and UHD. You must include the SD profile along with HD, and it's recommend that you include both SD and HD profiles with UHD.
  - o *Note: APIDs are no longer required in UltraViolet, see the note below for details.*
- Update a published logical asset with the *MapALIDtoAPIDUpdate* API.
- Delete an ALID using the *LogicalAssetDelete* API. An ALID can't be deleted if it's referenced by rights tokens.
- The *LogicalAssetList* API will return the list of all ALIDs, and associated CIDs. To retrieve an individual ALID use the *AssetMapALIDtoAPIDGet* API.

*Note: UltraViolet originally used APIDs (asset physical IDs) and "digital metadata" to define and describe Common File Format (CFF) files used for streaming and download. Because of this, the **MapALIDtoAPID…** APIs are still used to map ALIDs to CIDs, even though digital metadata and APIDs are now deprecated in the ecosystem.*

2.1.2.2 Discrete Media Rights

It's not necessary to provide Discrete Media Rights fulfillment information for ALIDs. If you support Discrete Media Rights, it's best to provide fulfillment requirements and guidelines in your bilateral agreements.

2.2 Optional Content Provider Functions

2.2.1 Disc Code Redemption

DECE provides the Common Redemption System (CRS) to

- simplify user redemption of "Digital HD UltraViolet" codes included with the purchase of movies and TV shows,
- streamline Retailer implementation of code redemption by providing a single API to connect to all participating Content Providers, and

- reduce complexity for Content Providers by providing a single point of code management for all participating Retailers and giving Content Providers the option to use the common code format and a central code database.

The CRS "Front End", the Common Landing Page (CLP), provides a single site where users can enter their codes, have them validated, and then choose a Retailer to create the UltraViolet Rights Token. The CRS "Back End" API is used by Content Providers to provision codes and is used by Retailers to validate and redeem codes.

You can use the CRS as a turnkey provider of UV code redemption services (including code generation, code validation, and code redemption) or you can integrate with the CRS by exposing APIs to your own code redemption service (or your service provider's code redemption service) so that the CRS can pass requests to you (or your service provider). You can specify the UltraViolet Retailers in each country that are available to redeem your codes. You can direct users to the Common Redemption landing page (myuv.com/redeem), or you can manage your own landing page.

Redemption codes go beyond discs. They can be used for gift cards and promotions, can be emailed to users who purchase a movie from a hotel or in-flight system, can be printed by kiosks, and so on.

2.2.2   Disc-to-Digital

You may wish to allow your retailers to "convert" prior physical purchases such as DVD or Blu-ray Disc to UltraViolet rights. This doesn't involve an actual copying or conversion process— the disc is simply used as a proof of purchase to support the transaction. Customers can bring discs into a physical location or can use a disc-recognition feature at home. DECE doesn't require a specific disc recognition technology — any approach can be taken, including inserting the disc into a computer drive for fingerprinting, scanning a store receipt, or taking a picture of the disc.

2.2.3   Prior Purchase Conversion

Encourage your retailers to create UltraViolet rights for content that users previously purchased. There are two scenarios:

1) When a user first links their retailer account to their UltraViolet Library, all prior purchases with UltraViolet rights are automatically added to their UltraViolet Library. This can apply to EST as well as DVD, Blu-ray, and other purchases.
2) When you make older content available in UltraViolet, the retailer automatically adds it to the UltraViolet Libraries of users who purchased the content before it was available in UltraViolet.

Both scenarios can be easily handled by the retailer having a process that scans each title in the user's retailer account, checks to see if corresponding UltraViolet content is not already in the user's linked UltraViolet Library, and if so, creates UltraViolet rights tokens. The retailer can run this process whenever a user first links (to cover scenario 1) and periodically in the background or whenever new UltraViolet avails are added to the retailer's catalog (to cover scenario 2).

Make sure your agreement with the retailer requires that this conversion be performed only once per account to prevent users from repeatedly filling different UltraViolet Libraries from a single retailer account.

2.2.4   Holdbacks

UltraViolet supports holdback information, but it's recommend that you communicate this directly to your retailers instead of through the UltraViolet Coordinator. If you choose to set holdback information in the Coordinator, you need to obligate your Retailers in your content license agreements to check and respect this information, as the UltraViolet Retailer and LASP License Agreements don't require it.

2.3   Best Practices

2.3.1   Localization

Localize all metadata text to at least the languages for countries where your UltraViolet content is available. UltraViolet user interfaces are currently available in English, French, German, and Dutch, but metadata can be localized to any language. Cover art images should also be localized.

Don't localize to country-specific language subtags unless there is a meaningful difference in usage or spelling. For example, only localize to "en", not "en-US", "en-GB", "en-CA", "en-AU", etc. unless the localized text contains differences such as "localize" vs. "localise" or "math" vs. "maths".

2.3.2   Genres

Create separate genre entries rather than combining them. Use recommended genres from the list below. See http://uvcentral.com/content/genres for more advice and best practices.

English	Française	Deutch	Nederlands	Notes
Action	Action	Aktion	Actie	
Adventure	Aventure	Abenteuer	Avontuur	
Animation	Animation	Animation	Animatie	*not Animated or Cartoon*
Anime	Anime	Anime	Anime	*not Japanese Anime; includes Manga*
Biography	Biographie	Biografie	Biografie	*not Biopic*
Children	Enfants	Kinder	Kinderen	*not Children's, Kids, or Kid's*
Comedy	Comédie	Komödie	Komedie	*not Humor; includes Sitcom, Satire*
Crime	Criminalité	Krimi	Criminaliteit	*includes Detective, Gangster, Law, Organized Crime, Police, Courtroom*
Documentary	Documentaire	Dokumentar	Documentaire	
Drama	Drame	Drama	Dramatiek	*not Dramatic*
Education	Éducation	Bildung	Onderwijs	*not Educational, Instruction, or Instructional*
Faith and Spirituality	Foi et spiritualité	Glaube und Spiritualität	Geloof en Spiritualiteit	*not Religion, or Faith & Spirituality; not separate genres*
Family	Famille	Familie	Familie	*not Families, Family Oriented, or Kids & Family*
Fantasy	Fantaisie	Fantasie	Fantasie	*includes Fables, Fairy Tales, Magical Realism, Sword & Sorcery*
Food	Nourriture	Lebensmittel	Eten	*not Gourmet or Food & Beverage*
Health	Santé	Gesundheit	Gezondheid	*includes Wellness, Nutrition, Personal Health*
History	Histoire	Geschichte	Geschiedenis	*not Historical; includes Epic, Saga, Historical Fiction*
Horror	Horreur	Schrecken	Verschrikking	*includes Ghost and Monster*
Independent	Indépendant	Unabhängige	Onafhankelijk	*not Indie*
Martial Arts	Arts martiaux	Kampfsport	Vechtsporten	*includes Kung Fu, Karate, etc.*

Music	Musique	Musik	Muziek	*includes Musical Performance, Concert, Music Video, Opera; note: Musical is a different genre*
Musical	Musical	Musical	Muzikaal	*not Singing, Stage Musical, or Musical Film*
Mystery	Mystere	Geheimnis	Mysterie	
Performance	Performance	Leistung	Prestaties	*not Performing Arts or Live Performance*
Reality	Réalité	Realität	Realiteit	*not Reality Show or Reality TV*
Romance	Romance	Romanze	Romantiek	*not Romantic or Rom-com*
Science Fiction	Science-fiction	Science Fiction	Wetenschappelijke	*not Sci-Fi or SF or Science-Fiction*
Sports	Sport	Sport	Sport	*not Sports, Athletics, or Games*
Talk	Parler	Diskussion	Spreektijd	*not Talk Show or Interview*
Teen	Jeunesse	Jugend	Jeugd	*not Teenage or Teenager*
Thriller	Thriller	Spannung	Thriller	*includes Suspense*
Travel	Voyage	Reisen	Reizen	*includes Tourism*
Variety	Variété	Varieté	Variété	*not Variety Show*
War	Guerre	Krieg	Oorlog	
Western	Western	Western	Westerse	*not Westerns or Cowboys*

2.3.3 Episodic Metadata

Television is well supported in the metadata structure. In particular, the "relationshipType" element allows episodes to be connected to parent seasons, with the seasons connected to a parent series. (Yes, in the UK a "series" is the equivalent of a US "season." Sorry about that.) Within the SequenceInfo element, the Number element represents the order in which the episodes and seasons were aired or were ordered for home video release.

This relationship is only defined by Content Metadata. **ALIDs for seasons and series should never exist.**

An example of coding the RelationshipType and SequenceInfo for Series, Season, and Episode:

```
"Episode" metadata relationship to "Season" metadata
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<BasicAsset
    xmlns="http://www.decellc.org/schema/2015/03/coordinator"
    xmlns:md="http://www.movielabs.com/schema/md/v2.2/md">
    <BasicData ContentID="urn:dece:cid:org:anyorg:exampleepisode006">
        <md:LocalizedInfo language="en" default="true">
            <md:TitleDisplay19>Example Episode</md:TitleDisplay19>
 [snip]
        <md:WorkType>Episode</md:WorkType>
        <md:SequenceInfo>
          <md:Number>6</md:Number>
        </md:SequenceInfo>
        <md:Parent relationshipType="isepisodeof">
<md:ParentContentID>urn:dece:cid:org:anyorg:exampleseason03</md:ParentContentID>
        </md:Parent>
    </BasicData>
</BasicAsset>
```

```
"Season" metadata relationship to "Series" metadata
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<BasicAsset
    xmlns="http://www.decellc.org/schema/2015/03/coordinator"
    xmlns:md="http://www.movielabs.com/schema/md/v2.2/md">
    <BasicData ContentID="urn:dece:cid:org:anyorg:exampleseason03">
        <md:LocalizedInfo language="en" default="true">
            <md:TitleDisplay19>Example Season</md:TitleDisplay19>
 [snip]
        <md:WorkType>Season</md:WorkType>
        <md:SequenceInfo>
          <md:Number>3</md:Number>
        </md:SequenceInfo>
        <md:Parent relationshipType="isseasonof">
<md:ParentContentID>urn:dece:cid:org:anyorg:exampleseries</md:ParentContentID>
        </md:Parent>
    </BasicData>
</BasicAsset>
```

```
"Series" metadata
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<BasicAsset
    xmlns="http://www.decellc.org/schema/2015/03/coordinator"
    xmlns:md="http://www.movielabs.com/schema/md/v2.2/md">
    <BasicData ContentID="urn:dece:cid:org:anyorg:exampleseries">
        <md:LocalizedInfo language="en" default="true">
            <md:TitleDisplay19>Example Series</md:TitleDisplay19>
[snip]
        <md:WorkType>Series</md:WorkType>
    </BasicData>
</BasicAsset>
```

2.3.4 TitleSort

The TitleSort element allows lists to be properly sorted independent of the human-readable title. Per
the alphabetization rules of each language, leading text should be moved to the end or simply omitted.
For example, for TitleDisplay60 "The Yearling", TitleSort should be "Yearling, The" or "Yearling".

TitleSort is also helpful to order hierarchical assets such as TV episodes. Series and season names should **not** be included in TitleDisplay60, but its recommend that they be included in TitleSort with season and series numbers. For example, TitleDisplay60 for an episode of Fringe would be "Fracture", but TitleSort might be "Fringe: Season 02: Episode 03: Fracture". In this case be sure to include leading 0's so numbers above 9 sort correctly.

Implementers should always use case-insensitive sorting, but it's still a good practice to use proper case (not all caps) to ensure correct sort order.

TitleSort is not intended to be shown to end users.

2.4   Summary of APIs for Content Providers

2.4.1   Required APIs

MetadataBasic [*Create/Get/Update/Delete*]	Used to create and maintain basic metadata at the Coordinator
MapALIDtoAPID [*Create/Update*]	Define ALIDs and ALID-to-CID mapping

2.4.2   Recommended APIs

MetadataBasicList	Return a list of basic metadata (CID)
LogicalAssetList	Return a list of logical assets (ALID)

2.5   API Details and Examples

2.5.1   MetadataBasicCreate

Request: POST [base]/Asset/Metadata/Basic

Example:
```
POST /rest/2015/02/Asset/Metadata/Basic HTTP/1.1
Connection: keep-alive
Accept: application/xml
Content-Type: application/xml
Content-Length: 3331
Host: p.uvvu.com

<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<BasicAsset xmlns="http://www.decellc.org/schema/2015/03/coordinator"
    xmlns:md="http://www.movielabs.com/schema/md/v2.3/md">
    <BasicData ContentID="urn:dece:cid:eidr-s:D22B-14A8-11CA-7D9A-86D1-T">
        <md:LocalizedInfo language="en" default="true">
            <md:TitleDisplay60>Prometheus</md:TitleDisplay60>
            <md:TitleDisplayUnlimited>Prometheus</md:TitleDisplayUnlimited>
            <md:TitleSort>Prometheus</md:TitleSort>
            <md:ArtReference resolution="96x144"
                >http://artreference.mdbasic.foxultraviolet.com/uv/fox/img/en-
us/prometheus/225c3369/96x144.jpg</md:ArtReference>
            <md:ArtReference resolution="112x160"
                >http://artreference.mdbasic.foxultraviolet.com/uv/fox/img/en-
us/prometheus/225c3369/112x160.png</md:ArtReference>
            <md:ArtReference resolution="192x288"
```

```
                    >http://artreference.mdbasic.foxultraviolet.com/uv/fox/img/en-
us/prometheus/225c3369/192x288.jpg</md:ArtReference>
                <md:ArtReference resolution="224x320"
                    >http://artreference.mdbasic.foxultraviolet.com/uv/fox/img/en-
us/prometheus/225c3369/224x320.png</md:ArtReference>
                <md:ArtReference resolution="800x1200"
                    >http://artreference.mdbasic.foxultraviolet.com/uv/fox/img/en-
us/prometheus/225c3369/800x1200.jpg</md:ArtReference>
                <md:ArtReference resolution="840x1200"
                    >http://artreference.mdbasic.foxultraviolet.com/uv/fox/img/en-
us/prometheus/225c3369/840x1200.png</md:ArtReference>
                <md:Summary190>A team of explorers discover a clue to the origins of mankind on Earth,
                    leading them on a journey through the universe. There, they must fight a battle to
                    save the future of the human race.</md:Summary190>
                <md:Summary400>Legendary director Ridley Scott (Alien, Blade Runner) returns to his sci-fi
                    origins in this epic adventure bursting with spectacular action and mind-blowing visual
                    effects. A team of explorers discover a clue to the origins of mankind on Earth,
                    leading them on a journey through the universe. There, they must fight a battle to
                    save the future of the human race. </md:Summary400>
                <md:Summary4000> Legendary director Ridley Scott (Alien, Blade Runner) returns to his sci-fi
                    origins in this epic adventure bursting with spectacular action and mind-blowing visual
                    effects. A team of explorers discover a clue to the origins of mankind on Earth,
                    leading them on a journey through the universe. There, they must fight a battle to
                    save the future of the human race. </md:Summary4000>
                <md:Genre>Science Fiction</md:Genre>
                <md:Genre>Fantasy</md:Genre>
                <md:OriginalTitle>Prometheus</md:OriginalTitle>
                <md:CopyrightLine>2012 Twentieth Century Fox Film Corporation. All rights
                    reserved.</md:CopyrightLine>
        </md:LocalizedInfo>
        <md:RunLength>PT2H3M0.000S</md:RunLength>
        <md:ReleaseYear>2012</md:ReleaseYear>
        <md:ReleaseDate>2012-06-08</md:ReleaseDate>
        <md:WorkType>Movie</md:WorkType>
        <md:RatingSet>
            <md:Rating>
                <md:Region>
                    <md:country>US</md:country>
                </md:Region>
                <md:System>MPAA</md:System>
                <md:Value>R</md:Value>
            </md:Rating>
        </md:RatingSet>
        <md:People>
            <md:Job>
                <md:JobFunction>Director</md:JobFunction>
            </md:Job>
            <md:Name>
                <md:DisplayName>Ridley Scott</md:DisplayName>
            </md:Name>
        </md:People>
    </BasicData>
</BasicAsset>
```

Response:

```
HTTP/1.1 202 Accepted
Date: Mon, 16 May 2016 19:01:48 GMT
Content-Type: application/xml; charset=UTF-8
Location: https://q.uvvu.com/rest/2015/02/Asset/Metadata/Basic/urn:dece:cid:eidr-s:D22B-14A8-11CA-7D9A-
86D1-T
x-Transaction-Info: t=1463425308 VzoZHApOEUUAACNiyYgAAAAb urn:dece:org:org:dece:anyorg:contentprovider
Vary: Accept-Encoding
Keep-Alive: timeout=15, max=100
Connection: Keep-Alive
```

Notes:

- A *202 Accepted* HTTP status code in the response indicates that additional processing, verification, and caching of the image resource(s) referenced in the metadata still needs to occur before the content metadata is successfully created in the Coordinator. You can determine status using the *MetadataBasicGet* API described below. Should an error occur during post processing of images, an error notification email will be sent to the designated contact(s) provided during onboarding.

2.5.2   MetadataBasicUpdate

Request: PUT [base]/Asset/Metadata/Basic/{ContentID}

Example:

```
PUT /rest/2015/02/Asset/Metadata/Basic/urn:dece:cid:eidr-s:D22B-14A8-11CA-7D9A-86D1-T HTTP/1.1
Connection: keep-alive
If-Match: "32FB23D4574D3474E05307024E0AAE04:4C71668E"
Accept: application/xml
Content-Type: application/xml
Content-Length: 3331
Host: p.uvvu.com

<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<BasicAsset xmlns="http://www.decellc.org/schema/2015/03/coordinator"
    xmlns:md="http://www.movielabs.com/schema/md/v2.3/md">
    <BasicData ContentID="urn:dece:cid:eidr-s:D22B-14A8-11CA-7D9A-86D1-T">
        <md:UpdateNum>2<md:UpdateNum>
        <md:LocalizedInfo language="en" default="true">
            <md:TitleDisplay19>Prometheus</md:TitleDisplay19>
            <md:TitleDisplay60>Prometheus</md:TitleDisplay60>
            <md:TitleDisplayUnlimited>Prometheus</md:TitleDisplayUnlimited>
            <md:TitleSort>Prometheus</md:TitleSort>
            <md:ArtReference resolution="96x144"
                >http://artreference.mdbasic.foxultraviolet.com/uv/fox/img/en-
us/prometheus/225c3369/96x144.jpg</md:ArtReference>
            <md:ArtReference resolution="112x160"
                >http://artreference.mdbasic.foxultraviolet.com/uv/fox/img/en-
us/prometheus/225c3369/112x160.png</md:ArtReference>
            <md:ArtReference resolution="192x288"
                >http://artreference.mdbasic.foxultraviolet.com/uv/fox/img/en-
us/prometheus/225c3369/192x288.jpg</md:ArtReference>
            <md:ArtReference resolution="224x320"
                >http://artreference.mdbasic.foxultraviolet.com/uv/fox/img/en-
us/prometheus/225c3369/224x320.png</md:ArtReference>
            <md:ArtReference resolution="800x1200"
                >http://artreference.mdbasic.foxultraviolet.com/uv/fox/img/en-
us/prometheus/225c3369/800x1200.jpg</md:ArtReference>
            <md:ArtReference resolution="840x1200"
                >http://artreference.mdbasic.foxultraviolet.com/uv/fox/img/en-
us/prometheus/225c3369/840x1200.png</md:ArtReference>
            <md:Summary190>A team of explorers discover a clue to the origins of mankind on Earth,
                leading them on a journey through the universe. There, they must fight a battle to
                save the future of the human race.</md:Summary190>
            <md:Summary400>A team of explorers discover a clue to the origins of mankind on Earth,
                leading them on a journey through the universe. There, they must fight a battle to
                save the future of the human race. </md:Summary400>
            <md:Summary4000>A team of explorers discover a clue to the origins of mankind on Earth,
                leading them on a journey through the universe. There, they must fight a battle to
                save the future of the human race. </md:Summary4000>
            <md:Genre>Science Fiction</md:Genre>
            <md:Genre>Fantasy</md:Genre>
            <md:OriginalTitle>Prometheus</md:OriginalTitle>
            <md:CopyrightLine>2012 Twentieth Century Fox Film Corporation. All rights
                reserved.</md:CopyrightLine>
        </md:LocalizedInfo>
```

```
        <md:RunLength>PT2H3M0.000S</md:RunLength>
        <md:ReleaseYear>2012</md:ReleaseYear>
        <md:ReleaseDate>2012-06-08</md:ReleaseDate>
        <md:WorkType>Movie</md:WorkType>
        <md:RatingSet>
            <md:Rating>
                <md:Region>
                    <md:country>US</md:country>
                </md:Region>
                <md:System>MPAA</md:System>
                <md:Value>R</md:Value>
            </md:Rating>
        </md:RatingSet>
        <md:People>
            <md:Job>
                <md:JobFunction>Director</md:JobFunction>
            </md:Job>
            <md:Name>
                <md:DisplayName>Ridley Scott</md:DisplayName>
            </md:Name>
        </md:People>
    </BasicData>
</BasicAsset>
```

Notes*:*

- For each update to Content Metadata the "UpdateNum" element must be incremented. The numbers don't have to be sequential, but each must be greater than the previous update number published.

- The "If-Match" header is required. You can provide the string returned in the ETag header by MetadataBasicGet, to ensure that you aren't updating the wrong version, or you can use the wildcard asterisk (*).

- To not clobber previous updates, it is highly recommended you GET the most recent version of the content metadata and make updates from the version returned (omitting the returned <ResourceStatus>).

Response:
```
HTTP/1.1 202 Accepted
Date: Mon, 16 May 2016 20:17:16 GMT
Content-Type: application/xml; charset=UTF-8
Location: https://q.uvvu.com/rest/2015/02/Asset/Metadata/Basic/urn:dece:cid:eidr-s:D22B-14A8-11CA-7D9A-
86D1-T
x-Transaction-Info: t=1463429836 VzoqzApOEUUAACUGwPgAAAAa urn:dece:org:org:dece:anyorg:contentprovider
Vary: Accept-Encoding
Keep-Alive: timeout=15, max=100
Connection: Keep-Alive
```

Notes:

- A *202 Accepted* HTTP status code in the response indicates that additional processing, verification, and caching of the image resource(s) referenced in the metadata still needs to occur before the content metadata is successfully created in the Coordinator. You can determine status using the *MetadataBasicGet* API described below. Should an error occur during post processing of images, an error notification email will be sent to the designated contact(s) provided during onboarding.

2.5.3 MetadataBasicGet

Request: `GET [base]/Asset/Metadata/Basic/{ContentID}[?UpdateNum={UpdateNumber}]`

Example:
```
GET /rest/2015/02/Asset/Metadata/Basic/urn:dece:cid:eidr-s:D22B-14A8-11CA-7D9A-86D1-T?UpdateNum=1 HTTP/1.1
Connection: keep-alive
Accept: application/xml
Content-Type: application/xml
Accept-Encoding: gzip, deflate
Host: q.uvvu.com
```

Notes:

- The Coordinator keeps all updates as separate resources. Omit the UpdateNum parameter to get the most recent version. Include the UpdateNum parameter (e.g. ?UpdateNum=3) at the end of the URL to retrieve a specific previous version of published metadata, especially when checking status after a 202 response to MetadaBasicCreate or MetadaBasicUpdate.

Response:
```
HTTP/1.1 200 OK
Date: Mon, 16 May 2016 19:37:50 GMT
Expires: Tue, 17 May 2016 19:37:50 GMT
Cache-Control: max-age=86400
Last-Modified: Mon, 16 May 2016 19:02:04 GMT
Content-Type: application/xml; charset=UTF-8
x-Transaction-Info: t=1463427470 VzohjQpOEUUAAAegkWAAAAAx urn:dece:org:org:dece:anyorg:contentprovider
Vary: Accept-Encoding
ETag: "32FB23D4574D3474E05307024E0AAE04:4C71668E"
Keep-Alive: timeout=15, max=100
Connection: Keep-Alive
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<BasicAsset xmlns="http://www.decellc.org/schema/2015/03/coordinator"
    xmlns:ns2="http://www.w3.org/2000/09/xmldsig#"
    xmlns:ns3="http://www.movielabs.com/schema/md/v2.3/md"
    xmlns:ns4="http://www.w3.org/2001/04/xmlenc#">
    <BasicData ContentID="urn:dece:cid:eidr-s:D22B-14A8-11CA-7D9A-86D1-T">
        <ns3:UpdateNum>1</ns3:UpdateNum>
        <ns3:LocalizedInfo language="en" default="true">
            <ns3:TitleDisplay19>Prometheus</ns3:TitleDisplay19>
            <ns3:TitleDisplay60>Prometheus</ns3:TitleDisplay60>
            <ns3:TitleDisplayUnlimited>Prometheus</ns3:TitleDisplayUnlimited>
            <ns3:TitleSort>Prometheus</ns3:TitleSort>
            <ns3:ArtReference resolution="96x144"
                >https://d13e70k7xfsxay.cloudfront.net/uvvu-
images/32FB01C83C6733B9E05307024E0A02D5</ns3:ArtReference>
            <ns3:ArtReference resolution="112x160"
                >https://d13e70k7xfsxay.cloudfront.net/uvvu-
images/32FB01C83C6433B9E05307024E0A02D5</ns3:ArtReference>
            <ns3:ArtReference resolution="192x288"
                >https://d13e70k7xfsxay.cloudfront.net/uvvu-
images/32FB01C83C6633B9E05307024E0A02D5</ns3:ArtReference>
            <ns3:ArtReference resolution="224x320"
                >https://d13e70k7xfsxay.cloudfront.net/uvvu-
images/32FB01C83C6833B9E05307024E0A02D5</ns3:ArtReference>
            <ns3:ArtReference resolution="800x1200"
                >https://d13e70k7xfsxay.cloudfront.net/uvvu-
images/32FB01C83C6333B9E05307024E0A02D5</ns3:ArtReference>
            <ns3:ArtReference resolution="840x1200"
                >https://d13e70k7xfsxay.cloudfront.net/uvvu-
images/32FB01C83C6533B9E05307024E0A02D5</ns3:ArtReference>
                <ns3:Summary190>A team of explorers discover a clue to the origins of mankind on Earth,
                    leading them on a journey through the universe. There, they must fight a battle to
```

```
                    save the future of the human race.</ns3:Summary190>
                <ns3:Summary400>A team of explorers discover a clue to the origins of mankind on Earth,
                    leading them on a journey through the universe. There, they must fight a battle to
                    save the future of the human race. </ns3:Summary400>
                <ns3:Summary4000 cast="false">A team of explorers discover a clue to the origins of
                    mankind on Earth, leading them on a journey through the universe. There, they must
                    fight a battle to save the future of the human race. </ns3:Summary4000>
                <ns3:Genre>Fantasy</ns3:Genre>
                <ns3:OriginalTitle>Prometheus</ns3:OriginalTitle>
                <ns3:CopyrightLine>2012 Twentieth Century Fox Film Corporation. All rights
                    reserved.</ns3:CopyrightLine>
            </ns3:LocalizedInfo>
            <ns3:RunLength>PT2H3M0.000S</ns3:RunLength>
            <ns3:ReleaseYear>2012</ns3:ReleaseYear>
            <ns3:ReleaseDate>2012-06-08</ns3:ReleaseDate>
            <ns3:WorkType>Movie</ns3:WorkType>
            <ns3:RatingSet>
                <ns3:Rating>
                    <ns3:Region>
                        <ns3:country>US</ns3:country>
                    </ns3:Region>
                    <ns3:System>MPAA</ns3:System>
                    <ns3:Value>R</ns3:Value>
                </ns3:Rating>
                <ns3:AdultContent>false</ns3:AdultContent>
            </ns3:RatingSet>
            <ns3:People>
                <ns3:Job>
                    <ns3:JobFunction>Director</ns3:JobFunction>
                </ns3:Job>
                <ns3:Name>
                    <ns3:DisplayName>Ridley Scott</ns3:DisplayName>
                </ns3:Name>
            </ns3:People>
        </BasicData>
        <ResourceStatus>
            <Current CreationDate="2016-05-16T19:01:48.482Z"
                CreatedBy="urn:dece:org:org:dece:anyorg:contentprovider">
                <Value>urn:dece:type:status:active</Value>
            </Current>
        </ResourceStatus>
    </BasicAsset>
```

Notes:

- Response handling is as follows:

    o HTTP 200 OK, with a ResourceStatus of "Active" – indicates that post-processing of the content metadata completed and the ContentID was successfully created.
    o HTTP 200 OK, with a ResourceStatus of "Pending" – indicates that the post-processing of the content metadata has not yet completed and the Content ID has not yet been created in the Coordinator.
    o HTTP 409 Conflict – indicates that errors occurred

- If you don't include ?UpdateNum={UpdateNumber} in the parameter of the MetadataBasicGet API call, and the last content metadata version published failed processing, you will be returned the last "successfully" published version with a HTTP 200 OK response. This can lead to a false positive regarding the status of the last version of the content metadata updated.

2.5.4   MetadataBasicList

Request: `GET [base]/Asset/Metadata/Basic/List`

Example:
```
GET /rest/2015/02/Asset/Metadata/Basic/List HTTP/1.1
Accept: application/xml
Content-Type: application/xml
Accept-Encoding: gzip, deflate
Host: q.uvvu.com
```

Response:
```
HTTP/1.1 200 OK
Date: Mon, 16 May 2016 17:50:27 GMT
Expires: Tue, 17 May 2016 17:50:28 GMT
Cache-Control: max-age=86400
Last-Modified: Mon, 16 May 2016 17:34:24 GMT
Content-Type: application/xml; charset=UTF-8
x-Transaction-Info: t=1463421028 VzoIYwpOEUUAACCtEgIAAAAL urn:dece:org:org:dece:anyorg:contentprovider
Vary: Accept-Encoding
ETag: "32F9FD84AEDF21D7E05307024E0AB26E:C0ABA29D"
Keep-Alive: timeout=15, max=100
Connection: Keep-Alive
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<BasicAssetList xmlns="http://www.decellc.org/schema/2015/03/coordinator"
    xmlns:ns2="http://www.w3.org/2000/09/xmldsig#"
    xmlns:ns3="http://www.movielabs.com/schema/md/v2.3/md"
    xmlns:ns4="http://www.w3.org/2001/04/xmlenc#"
    FilterClass="urn:dece:type:viewfilter:lastmodifieddate" FilterOffset="0" FilterCount="1000"
    FilterMoreAvailable="true">
    <BasicAssetReference ContentID="urn:dece:cid:eidr-s:D4C1-775A-7C6B-B249-E700-O"
        CurrentStatus="urn:dece:type:status:active" CreatedDate="2016-04-26T17:56:07.998Z"/>
    <BasicAssetReference ContentID="urn:dece:cid:org:lionsgate:2490296-205936"
        CurrentStatus="urn:dece:type:status:active" CreatedDate="2016-04-26T17:41:01.651Z"/>
    <BasicAssetReference ContentID="urn:dece:cid:eidr-s:F8AD-6D67-1AA4-117D-7ED0-N"
        CurrentStatus="urn:dece:type:status:active" CreatedDate="2016-04-26T00:03:31.430Z"
        UpdatedDate="2016-04-26T00:03:31.430Z"/>
    <BasicAssetReference ContentID="urn:dece:cid:eidr-s:6126-B65A-FAD5-BC02-C17F-S"
        CurrentStatus="urn:dece:type:status:active" CreatedDate="2016-04-25T21:49:31.240Z"/>
    <BasicAssetReference ContentID="urn:dece:cid:eidr-s:C25C-ECE7-F932-376C-D9CE-H"
        CurrentStatus="urn:dece:type:status:active" CreatedDate="2016-04-25T21:41:54.763Z"/>
    <BasicAssetReference ContentID="urn:dece:cid:eidr-s:55A2-C5B4-1B3E-178D-E0BF-E"
        CurrentStatus="urn:dece:type:status:active" CreatedDate="2016-05-16T17:33:42.029Z"
        UpdatedDate="2016-05-16T17:33:42.029Z"/>
    <BasicAssetReference ContentID="urn:dece:cid:eidr-s:409C-FFAE-AB69-7D2E-4E1F-Y"
        CurrentStatus="urn:dece:type:status:active" CreatedDate="2016-05-16T17:10:21.152Z"/>
    <BasicAssetReference ContentID="urn:dece:cid:eidr-s:BD7F-83A9-C319-BF6E-984B-O"
        CurrentStatus="urn:dece:type:status:active" CreatedDate="2016-04-06T20:30:15.111Z"/>
    <BasicAssetReference ContentID="urn:dece:cid:eidr-s:83A8-A37D-7541-9DBB-5AB6-0"
        CurrentStatus="urn:dece:type:status:active" CreatedDate="2016-04-06T20:27:09.902Z"/>
    <BasicAssetReference ContentID="urn:dece:cid:eidr-s:F254-8E95-E787-C1CF-8896-F"
        CurrentStatus="urn:dece:type:status:active" CreatedDate="2016-04-06T20:20:35.734Z"/>
    <BasicAssetReference ContentID="urn:dece:cid:eidr-s:10CC-1BAB-ADCD-B128-3722-X"
        CurrentStatus="urn:dece:type:status:active" CreatedDate="2016-04-06T20:16:57.412Z"/>
    <BasicAssetReference ContentID="urn:dece:cid:eidr-s:C262-98C1-DA71-C8AF-5D6E-I"
        CurrentStatus="urn:dece:type:status:active" CreatedDate="2016-04-06T20:13:24.597Z"/>
…
</BasicAssetList>
```

Notes:

- Responses may require multiple pages, using the FilterCount, FilterOffset and FilterMoreAvailable parameters.

- FilterCount – is used to constrain the number of items in the response collection. No more than FilterCount elements will be returned in the response.
- FilterOffset – indicates the zero-based offset from the beginning of the request.
- FilterMoreAvailable – is an ouput-only parameter that indicates whether there are results in the collection that have not been returned.

- If there are more CIDs available (e.g. FilterMoreAvailable="true"), repeat the call using the FilterCount and FilterOffset parameters to retrieve the remaining CIDs.

- Example:
  - 1st call: /Asset/Metadata/Basic/List
  - 2nd call: /Asset/Metadata/Basic/List?FilterClass=urn:dece:type:viewfilter:lastmodifieddate &FilterCount=1000&FilterOffset=1000
  - 3rd call: /Asset/Metadata/Basic/List?FilterClass=urn:dece:type:viewfilter:lastmodifieddate &FilterCount=1000&FilterOffset=2000

2.5.5 MetadataBasicDelete

Request: `DELETE [base]/Asset/Metadata/Basic/{ContentID}`

Example:
```
DELETE /rest/2015/02/Asset/Metadata/Basic/urn:dece:cid:eidr-s:D22B-14A8-11CA-7D9A-86D1-T HTTP/1.1
Connection: keep-alive
If-Match: "32FC5089FAB04544E05307024E0AEFF6:4C71668E"
Accept: application/xml
Content-Type: application/xml
Content-Length: 0
Host: p.uvvu.com
```

Notes:

- The "If-Match" header is required. You can provide the string returned in the ETag header from MetadataBasicGet or you can use the wild card asterisk (*).

- MetadataBasicDelete is not permitted if the ContentID is referenced by ALIDs or rights tokens. Any associated ALIDs must first be updated or deleted and any associated rights tokens must first be updated to reference a different CID.

Response:
```
HTTP/1.1 200 OK
Date: Tue, 17 May 2016 14:37:26 GMT
Content-Type: text/plain; charset=UTF-8
x-Transaction-Info: t=1463495847 VzsspgpOEUUAACauwT8AAAAC urn:dece:org:org:dece:anyorg:contentprovider
Vary: Accept-Encoding
Keep-Alive: timeout=15, max=100
Connection: Keep-Alive
```

2.5.6 MapALIDtoAPIDCreate

Request: `POST [base]/Asset/Map`

Example:
```
POST /rest/2015/02/Asset/Map HTTP/1.1
Connection: keep-alive
Accept: application/xml
Content-Type: application/xml
Content-Length: 467
Host: p.uvvu.com
```

```
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<LogicalAsset xmlns="http://www.decellc.org/schema/2015/03/coordinator"
    xmlns:md="http://www.movielabs.com/schema/md/v2.2/md"
    ALID="urn:dece:alid:eidr-s:D22B-14A8-11CA-7D9A-86D1-T"
    ContentID="urn:dece:cid:eidr-s:D22B-14A8-11CA-7D9A-86D1-T"
    MediaProfile="urn:dece:type:mediaprofile:sd"
    AssentStreamAllowed="false">
    <AssetFulfillmentGroup>
        <DigitalAssetGroup/>
    </AssetFulfillmentGroup>
</LogicalAsset>
```

Notes:

- Repeat the MapALIDtoAPIDCreate API call for every media profile you wish to allow. In the example above, the ALID was created for the "SD" media profile. If this asset included HD and UHD, this API would be executed 2 more times, each time with the appropriate <MediaProfile> string (e.g. urn:dece:type:mediaprofile:hd or urn:dece:type:mediaprofile:uhd).

Response:
```
HTTP/1.1 201 Created
Date: Tue, 17 May 2016 14:43:54 GMT
Content-Type: application/xml; charset=UTF-8
Location: https://q.uvvu.com/rest/2015/02/Asset/Map/urn:dece:type:mediaprofile:sd/urn:dece:alid:eidr-
s:D22B-14A8-11CA-7D9A-86D1-T
x-Transaction-Info: t=1463496234 VzsuKgpOEUUAAHxMZfYAAAAP urn:dece:org:org:dece:anyorg:contentprovider
Vary: Accept-Encoding
Keep-Alive: timeout=15, max=100
Connection: Keep-Alive
```

2.5.7 MapALIDtoAPIDUpdate

Request: PUT [base]/Asset/Map/{MediaProfile}/{ALID}

Example:
```
PUT /rest/2015/02/Asset/Map/urn:dece:type:mediaprofile:sd/urn:dece:alid:eidr-s:D22B-14A8-11CA-7D9A-86D1-T
HTTP/1.1
Connection: keep-alive
If-Match: "330B972CABC231A2E05307024E0A2691:9CB6378A"
Accept: application/xml
Content-Type: application/xml
Content-Length: 467
Host: p.uvvu.com

<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<LogicalAsset xmlns="http://www.decellc.org/schema/2015/03/coordinator"
    xmlns:md="http://www.movielabs.com/schema/md/v2.2/md"
    ALID="urn:dece:alid:eidr-s:D22B-14A8-11CA-7D9A-86D1-T"
    ContentID="urn:dece:cid:eidr-s:D22B-14A8-11CA-7D9A-86D1-T"
    MediaProfile="urn:dece:type:mediaprofile:sd"
    AssentStreamAllowed="false">
    <AssetFulfillmentGroup>
        <DigitalAssetGroup/>
    </AssetFulfillmentGroup>
</LogicalAsset>
```

Notes:

- The "If-Match" header is required. You can provide the string returned in the ETag header by MapALIDtoAPIDGet, to ensure that you aren't updating the wrong version, or you can use the wildcard asterisk (*).

Response:
```
HTTP/1.1 200 OK
Date: Tue, 17 May 2016 14:59:58 GMT
Content-Type: application/xml; charset=UTF-8
Location: https://q.uvvu.com/rest/2015/02/Asset/Map/urn:dece:type:mediaprofile:sd/urn:dece:alid:eidr-
s:D22B-14A8-11CA-7D9A-86D1-T
x-Transaction-Info: t=1463497198 Vzsx7QpOEMcAACDyTgwAAAAC urn:dece:org:org:dece:anyorg:contentprovider
Vary: Accept-Encoding
Keep-Alive: timeout=15, max=100
Connection: Keep-Alive
```

2.5.8   MapALIDtoAPIDGet

Request: `GET [base]/Asset/Map/{MediaProfile}/{ALID}`

Example:
```
GET /rest/2015/02/Asset/Map/urn:dece:type:mediaprofile:sd/urn:dece:alid:eidr-s:D22B-14A8-11CA-7D9A-86D1-T
HTTP/1.1
Connection: keep-alive
Accept: application/xml
Content-Type: application/xml
Host: q.uvvu.com
```

Response:
```
HTTP/1.1 200 OK
Date: Tue, 17 May 2016 14:54:58 GMT
Expires: Wed, 18 May 2016 14:54:58 GMT
Cache-Control: max-age=86400
Last-Modified: Tue, 17 May 2016 14:43:54 GMT
Content-Type: application/xml; charset=UTF-8
x-Transaction-Info: t=1463496898 VzswwgpOEMcAABzH@oAAAAAT urn:dece:org:org:dece:anyorg:contentprovider
Vary: Accept-Encoding
ETag: "330B972CABC231A2E05307024E0A2691:9CB6378A"
Keep-Alive: timeout=15, max=100
Connection: Keep-Alive
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<LogicalAsset xmlns="http://www.decellc.org/schema/2015/03/coordinator"
xmlns:ns2="http://www.w3.org/2000/09/xmldsig#" xmlns:ns3="http://www.movielabs.com/schema/md/v2.3/md"
xmlns:ns4="http://www.w3.org/2001/04/xmlenc#" ALID="urn:dece:alid:eidr-s:D22B-14A8-11CA-7D9A-86D1-T"
ContentID="urn:dece:cid:eidr-s:D22B-14A8-11CA-7D9A-86D1-T" MediaProfile="urn:dece:type:mediaprofile:sd"
AssentStreamAllowed="false">
    <AssetFulfillmentGroup>
        <DigitalAssetGroup/>
    </AssetFulfillmentGroup>
</LogicalAsset>
```

2.5.9   LogicalAssetList

Request: `GET [base]/Asset/Map/List`

Example:
```
GET /rest/2015/02/Asset/Map/List HTTP/1.1
Connection: keep-alive
Accept: application/xml
Content-Type: application/xml
Host: q.uvvu.com
```

Response:
```
HTTP/1.1 200 OK
Date: Tue, 17 May 2016 15:10:11 GMT
Expires: Wed, 18 May 2016 15:10:11 GMT
Cache-Control: max-age=86400
Last-Modified: Tue, 17 May 2016 14:59:58 GMT
Content-Type: application/xml; charset=UTF-8
x-Transaction-Info: t=1463497811 Vzs0UwpOEMcAACJ5I7IAAAAi urn:dece:org:org:dece:anyorg:contentprovider
Vary: Accept-Encoding
ETag: "330BB094C65B333CE05307024E0A032F:5FE97980"
Keep-Alive: timeout=15, max=100
Connection: Keep-Alive
<?xml version="1.0" encoding="UTF-8" standalone="yes"?>
<LogicalAssetList xmlns="http://www.decellc.org/schema/2015/03/coordinator"
    xmlns:ns2="http://www.w3.org/2000/09/xmldsig#"
    xmlns:ns3="http://www.movielabs.com/schema/md/v2.3/md"
    xmlns:ns4="http://www.w3.org/2001/04/xmlenc#"
    FilterClass="urn:dece:type:viewfilter:lastmodifieddate" FilterOffset="0" FilterCount="1000"
    FilterMoreAvailable="true">
    <LogicalAssetReference ALID="urn:dece:alid:eidr-s:F8AD-6D67-1AA4-117D-7ED0-N"
        ContentID="urn:dece:cid:eidr-s:F8AD-6D67-1AA4-117D-7ED0-N"
        CurrentStatus="urn:dece:type:status:active" CreatedDate="2016-04-21T00:05:26.601Z"
        UpdatedDate="2016-05-17T12:06:09.792Z"/>
    <LogicalAssetReference ALID="urn:dece:alid:eidr-s:F8AD-6D67-1AA4-117D-7ED0-N"
        ContentID="urn:dece:cid:eidr-s:F8AD-6D67-1AA4-117D-7ED0-N"
        CurrentStatus="urn:dece:type:status:active" CreatedDate="2016-04-21T00:05:22.313Z"
        UpdatedDate="2016-05-17T12:06:04.383Z"/>
    <LogicalAssetReference ALID="urn:dece:alid:eidr-s:F92B-185C-4732-6F74-2678-R"
        ContentID="urn:dece:cid:eidr-s:F92B-185C-4732-6F74-2678-R"
        CurrentStatus="urn:dece:type:status:active" CreatedDate="2016-04-30T00:06:19.022Z"
        UpdatedDate="2016-05-17T12:05:56.088Z"/>
    <LogicalAssetReference ALID="urn:dece:alid:eidr-s:409C-FFAE-AB69-7D2E-4E1F-Y"
        ContentID="urn:dece:cid:eidr-s:409C-FFAE-AB69-7D2E-4E1F-Y"
        CurrentStatus="urn:dece:type:status:active" CreatedDate="2016-05-16T17:11:04.416Z"/>
    <LogicalAssetReference ALID="urn:dece:alid:eidr-s:409C-FFAE-AB69-7D2E-4E1F-Y"
        ContentID="urn:dece:cid:eidr-s:409C-FFAE-AB69-7D2E-4E1F-Y"
        CurrentStatus="urn:dece:type:status:active" CreatedDate="2016-05-16T17:11:03.790Z"/>
    <LogicalAssetReference ALID="urn:dece:alid:eidr-s:3209-0718-476C-4B76-0141-Y"
        ContentID="urn:dece:cid:eidr-s:3209-0718-476C-4B76-0141-Y"
        CurrentStatus="urn:dece:type:status:active" CreatedDate="2016-05-16T17:05:51.436Z"/>
    <LogicalAssetReference ALID="urn:dece:alid:eidr-s:3209-0718-476C-4B76-0141-Y"
        ContentID="urn:dece:cid:eidr-s:3209-0718-476C-4B76-0141-Y"
        CurrentStatus="urn:dece:type:status:active" CreatedDate="2016-05-16T17:05:50.787Z"/>
    <LogicalAssetReference ALID="urn:dece:alid:org:lionsgate:2450075-221515"
        ContentID="urn:dece:cid:org:lionsgate:2450075-221515"
        CurrentStatus="urn:dece:type:status:active" CreatedDate="2016-05-16T16:09:51.099Z"/>
…
</LogicalAssetList>
```

Notes:

- Responses may require multiple pages, using the FilterCount, FilterOffset and FilterMoreAvailable parameters. See MetadataBasicList above for details.

2.5.10 LogicalAssetDelete

Request: `DELETE [base]/Asset/Map/{MediaProfile}/{ALID}`

Example:
```
DELETE /rest/2015/02/Asset/Map/urn:dece:type:mediaprofile:uhd/urn:dece:alid:eidr-s:D22B-14A8-11CA-7D9A-
86D1-T HTTP/1.1
Connection: keep-alive
If-Match: "32FC5089FAB04544E05307024E0AEFF6:4C71668E"
Accept: application/xml
```

```
Content-Type: application/xml
Content-Length: 0
Host: p.uvvu.com
```

Notes:

- The "If-Match" header is required. You can provide the string returned in the ETag header from MetadataBasicGet or you can use the wild card asterisk (*).

- LogicalAssetDelete is not permitted if the ALID is referenced in a Rights Token. Any referencing Rights Tokens must first be updated or deleted.

Response:
```
HTTP/1.1 200 OK
Date: Thu, 19 May 2016 13:03:27 GMT
Content-Type: application/octet-stream; charset=UTF-8
x-Transaction-Info: t=1463663008 Vz25nwpOEMcAAEN3LOAAAAAj urn:dece:org:org:dece:anyorg:contentprovider
Vary: Accept-Encoding
Content-Length: 0
Keep-Alive: timeout=15, max=100
```

3 Summary of UltraViolet Ecosystem Simplifications

During the end of 2014 and the beginning of 2015, DECE significantly simplified the UltraViolet ecosystem. As a result, some former roles and requirements no longer apply, even though they may still be referenced in the specifications. The changes are described here for those who may have been implementing or evaluating the UltraViolet Ecosystem prior to simplification.

See the UltraViolet Retailer Implementation Guide for simplifications related to Retailers.

3.1 No CFF and DRM Obligations

Content Providers are no longer required to provide files in the Common File Format (CFF) for download and streaming, and no longer required to deliver CFF decryption keys to Retailers Download Service Providers (DSPs). The use of CFF is still strongly encouraged.

DECE no longer approves DRMs or streaming protection technologies. These are now governed solely by Content Provider agreements with Retailers and LASPs.

3.2 No Fulfillment Obligations

Retailers and LASPs are no longer required to fulfill content in any specific form or for any period of time. Bilateral agreements with Content Providers may impose fulfillment obligations, such as the requirement that if a Retailer has a license to sell an UltraViolet title, it must provide streaming and/or download of that title for any UltraViolet user, even if the Rights Token was created by another Retailer.

3.3 De-emphasis of "Physical" Metadata

Because standard delivery using CFF is no longer required, there is little need for the Coordinator to hold information about "physical assets," also called "digital assets," i.e., the files delivered to users. Asset physical IDs (APIDs) and related Digital Asset Metadata are supported for backward compatibility but are no longer needed.

3.4 Retailer-centric Library Sharing

To provide more flexibility for Retailers and Content Providers to define Library sharing models appropriate to Retailer services, the centralized mechanism for adding users to UltraViolet accounts is deprecated. Retailers should not use the UserCreate API call, and instead should simply link multiple accounts or multi-user accounts in their own service to a single UltraViolet user account (subject to agreements with Content providers).

3.5 No Checkbox LASP

The *AssentStreamAllowed* flag and associated *AssentStreamLoc* URL were intended to allow a standalone LASP to stream from flagged Rights Tokens without a license from the Content Provider. In

practice there have been no standalone LASPs and few Rights Tokens with *AssentStreamAllowed*, so this feature has been mothballed.