



TWDC DTC VOD Content Delivery Specification

Version 3.6



with additional delivery information for the **hotstar**  platform

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2 Changelog

Version/Date	Changes	Author
0.1 DRAFT - 2018-02-05	Initial draft - circulated for review	
0.2 DRAFT - 2018-02-14	Revisions based on feedback from tech & ops teams - Added SD content profile - Added dual mono audio configuration - Changed references from 'features' to 'movies' to allow for inclusion of direct-to-digital and TV movie content - Added examples of TV identifiers	
1.0 RC1 - 2018-06-18	- Clarified HDR nit level guidance for constrained/unconstrained elements and added HDR metadata example snippet - Added appendix section containing language pairs, supply chain use cases, and links to example MMC and MEC files - Updated audio channel configuration options - Updated Avails process to reference S3 bucket - Updated ContentID to use an EIDR Abstract, instead of Edit - Added section detailing delivery package structure and process - Updated package naming conventions - Added details for dub card asset - Renamed to Disney SVOD Content Delivery Specification - Removed mention of Cross Platform Extras for bonus/extras pending collaboration on bonus delivery process with Disney+ - Added Collaboration section with links to Google Drive and Slack channel	
1.0 RC1 - 2018-06	- Added section for each Manifest construct to Media Asset Package Framework section - Included language in video track ID - Updated audio track example to remove a legacy channel configuration - Changed the timed text section to subtitles as that's what they are called in the spec document - Added "Timecode track is not needed." to the video section - Updated Subtitle timecode from HH:MM:SS:sss to HH:MM:SS.sss - Added release type CV in the MEC - Updated release type section in the exploded MEC schema - Added Namespace CV with values of CharacterID and NameID - Updated language to only include launch languages and	

	- include locale every time - Updated the ID recommendations to include cardset type for videos - Removed language as a required field for artwork - Updated controlled vocabulary for experience - Audiovisual type and sub-type for bonus content - Re-added a frames per second field in the picture section of video inventory - Added source attribute as a required field to genre in the MEC - Added a controlled vocabulary value for no language - Added trailer and dcom to mmc workflow types	
1.1	- Added artwork section detail - Added additional keystone sizes - Updated language tag values - Added Minimum Viable Package - Changed references from Bamtech to Disney+ Services - Added details for temporal markers	
1.2	Full Change Log Link: https://drive.google.com/open?id=1CamGXitt_bfwEd4o0C2ISTIPUL2OBIN-	
1.3 Published 2019-02-20	- Clarified timed text rules to allow style within <p> and ; added support for frame-based tagging; added supported colors - Added notes for subtitle and audio conform tolerance - Updated UHD video spec - Added Description to Images - Support Multi-language images - Changed logo - Clarified Pixel Aspect Ratio apart from Display Aspect Ratio in Video source profile - Added md:Type to the MMC for image assets - Updated Ratings MEC snippet - Updated Dutch Rating Example XML link and snippet - Added md:DisplayIndicators (productPlacement, isAnimated) - Updated Method: MovieLabs Media Entertainment Core (MEC) v2.6 and Media Manifest Core v1.7 - Added note about dub card source profile matching primary video source profile - Updated ALID representations to md:alid:EIDR2 - Added FamilyID to MEC AltIdentifier snippet - Changed HDR-10 bit depth from 10-bit to 12-bit preferred/10-bit accepted - Removed requirement to downsample all HDR to 10-bit prior to delivery - Added marker types for recap_start and recap_end	
1.4	Added section for UHD HDR with illustrations of various packaging scenarios	

	• Added example HDR10 metadata XML • Added clarification for UHD dub cards • Revised Atmos audio considerations • Added Audio Description details • Added markers for paid product placement start/end • Added 720p60 as video format • Added UI Background Videos and Service Bumper to match supply chain media formats	
1.5	• Finalized Disney+ Genre CV and linked to MEC Field List • Updated language code table • Clarified Dolby Vision index requirement for initial <In> value • Added ATMOS Bit Rate • Updated ST 2086 metadata sidecar example • Added Disney+ Supported Audio + Timed Text Languages Table	
1.6	• Moved Minimum Viable Package Specifications to Disney+ Minimum Viable Package Specifications document. • Updated Disney+ logo • Updated MovieLabs Media Entertainment Core (MEC) v2.7.1 and Media Manifest Core v1.8.1 versions to v2.6 and 1.7 respectively throughout • Updated Product Metadata Identifiers for Content and Family ID to read: md:cid:org:disney.com:radar:[RadarProductID] for clarification • Update ALID naming convention (nothing appended) • Updated Media Asset Video spec • Removed points 5 and 6 under Media Asset Package Delivery: Initial Delivery Workflow • Added Marker placement guidelines/style guide • Edited Marker placement guidelines requirements for “Executive Producer” (non-specific)	
2.0 - 2020-07-23	• Re-formatted document for visual consistency • Re-focused document on audio/video deliverables • Removed all Google Drive links • Integrated Video Profile Addendum • Added MMC 1.9 Support • Added Multi-Aspect Ratio Support	
2.1 - 2020-11-11	• Clarifications on high-security title procedures • Added Associated Languages table • Clarifications on UHD Requirements • Clarifications on updateNum uniqueness • Updated Systems and Workflow section • Added Support Appendix • Added Pre-Flight Madmartigan Appendix • Added Pre-Flight Avail Status Appendix • Added support for Icelandic and Catalan	

	- Added new DSS Ingest Status Messages - Added more strict Frame Rate denominator values	
2.2 - 2021-06-08	- Updated Marker section with Marker Application Details - Removed Bumpers from Disney+ Content Delivery Specification - Added Korean, Mandarin (China), Mandarin (Taiwan), Indonesian (Bahasa), Thai, Vietnamese, and Melayu (Bahasa) as Allowed Spoken Languages - Added Chinese (Simplified), Chinese (Traditional), Japanese, and Korean as Allowed Written/Subtitle Languages - Added IMAX 1.90 Aspect Ratio SubType - MMC 1.7 Support Deprecation September, 2021 - Added Asset Remove Scenarios and Support - Added Asset Metadata Update Scenarios and Support - Added video language and audio 2.0 language requirement - Added SIP Control Component UI Metadata Update Support - Added SIP MMC Retrieval API Support - Document title page updated to reflect Disney+ branding	
2.3 - 2021-08-17	Made FFEC marker required	
2.4 - 2021-11-05	- Added Czech, Greek, Hungarian, Romanian, Slovak, and Turkish as Allowed Spoken and Written/Subtitle Languages - Added Flemish, Malay (Bahasa), Maori, and German (Austrian) as Allowed Spoken Languages - Added Pre-Flight MMC Validations Appendix	
3.0 - 2022-01-31	- Updated Language and Associated Language Support for Hotstar - Updated MMC Retrieval API for Hotstar - Updated Pre-Flight MMC Validation for Hotstar - Update Marker Support for Hotstar - Updated Systems Integration for Hotstar - Added 720p 23.98 Support - Fixed some broken links to external document references	
3.1 - 2022-02-18	- Corrected Language Support - Updated Pre-Flight Madmartigan to support the Platform parameter for Hotstar	
3.2 - 2022-03-28	Update Required Markers to include FFCB and LFCB Markers when present	
3.3 - 2022-08-23	- Updated Required Markers to include FPCI for content without commercial blacks - Added requirements regarding Ad Break Volume for	

	- reference in fulfillment of FCCB/LFCB and FPCI markers - Added Indonesian (Bahasa) and Malay (Bahasa) as Allowed Written/Subtitle Languages for both Disney+ and Hotstar - Added Hindi, Malayalam, and Russian Spoken and Written/Subtitle Languages for Hotstar - SIP API will now return a Rejected status when a Delayed package is Rejected by Disney+ or Hotstar - SIP Control will now display a Rejected status when a Delayed package is Rejected by Disney+ or Hotstar - Fixed dead links	
3.4 - 2024-8-20	- Added cho, lkt, moh, oj - Updated mi - Added DTS:X Audio - Display language updates to Language Table - Added legal caveat to placement of up-next marker - Updated delivery scenarios - Updated external spec links	
3.5 - 2026-01-07	- Replaced Marker with Mobius - Added support for UHD SDR Only Scenarios - Added Disney+ written and spoken language support for: Arabic (ar), Hebrew (he), and Hawaiian (haw). - Added Disney+ written language support for already spoken language supported languages: Indonesian (id), Malay (ms), and Thai (th). - Added Disney+ Spoken language support for: Arabic Egyptian (ar-EG), Arabic Syrian (ar-SY), Arabic Saudi Arabia (ar-SA), Arabic United Arab Emirates (ar-AE), Arabic Kuwait (ar-KW), Arabic Iraq (ar-IQ), Arabic Lebanon (ar-LB), Arabic Jordan (ar-JO), Arabic Morocco (ar-MA), Arabic Tunisia (ar-TN), Arabic Qatar (ar-QA), Hindi (hi), Tamil (ta), Malayalam (ml), and Telugu (te). - Added 3D Picture Support - Required Non-Skippable Credits - Supplementary Assets Clarification - Updated Ad load requirements - Added the Disney Aspect Ratio Line Chart link - Removed Bumper Presentation Examples - Removed Next On & DCOM - Removed Complete Package - General formatting updates for readability	
3.6 - 2026	- Added Disney+ written and spoken languages for: Albanian (sq), Afrikaans (af), Arapaho (arp), Basque (eu), Comanche (com), Croatian (hr), Navajo (nv), Northern Sami (se), Sardinian (sc), Tagalog (tl), Tahitian (ty), Xhosa (xh), and Zulu (zu). - Added Disney+ written languages for existing spoken languages for: Lakota (lkt), Ojibwe (oj), and Vietnamese (vi). - Clarified the Marker section	

	• Updated Up Next marker functionality and considerations • Clarified Dolby Vision L6 Metadata requirements	
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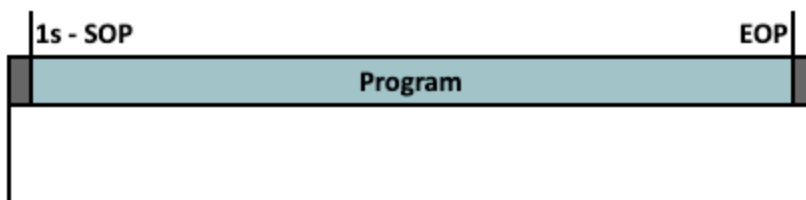
3 Technical Specifications (Audio/Video)

3.1 General Requirements

Please reach out to Disney for guidance if there are creative or technical reasons as to why your deliverables may differ from the below specifications.

3.1.1 Editorial and Conformance

- The video should be semi-textless so that localization can be performed via the supplemental subs and dubs. This means that all spoken, signed, or thought subtitled events need to be removed from the picture element and included in the appropriate timed-text elements.
- The below video, audio, timed text, and HDR metadata assets shall all conform to each other.
- New deliverables should include 1 second handles of black or MOS before and after the program. Supplemental deliveries for an already existing title should maintain the conformance of the original deliverable.



3.1.2 HDR Grade

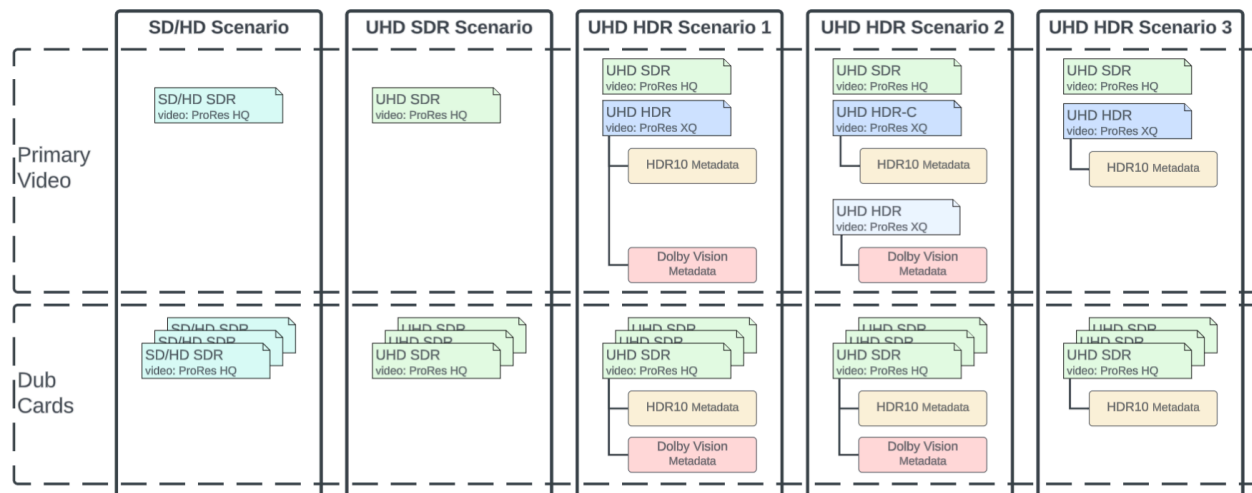
- All UHD packages that include an HDR video asset, MUST also include an SDR video asset.
- UHD packages that include an SDR video asset ONLY are supported.
 - It should be noted that UHD SDR only deliveries are not made available in the full UHD resolution to the subscriber. SDR video is capped at 1080 (HD).
- Dolby Vision is the preferred presentation format for HDR content, however HDR10 without Dolby Vision metadata is also supported on the platform.
- SDR experiences are not derived from the HDR grade. The SDR grade must be provided as a separate video deliverable.
- If the dynamic range exceeds 1000 nits and does not include Dolby Vision, please reach out to Disney for direction.

3.1.3 Delivery & Format Requirements

Several asset and packaging scenarios are possible depending on the manner in which the content was mastered.

3.1.3.1 Single Aspect Ratio Delivery & Format Requirements

Servicing a single aspect ratio is possible for SD, HD, and UHD content using one of the below servicing scenarios.

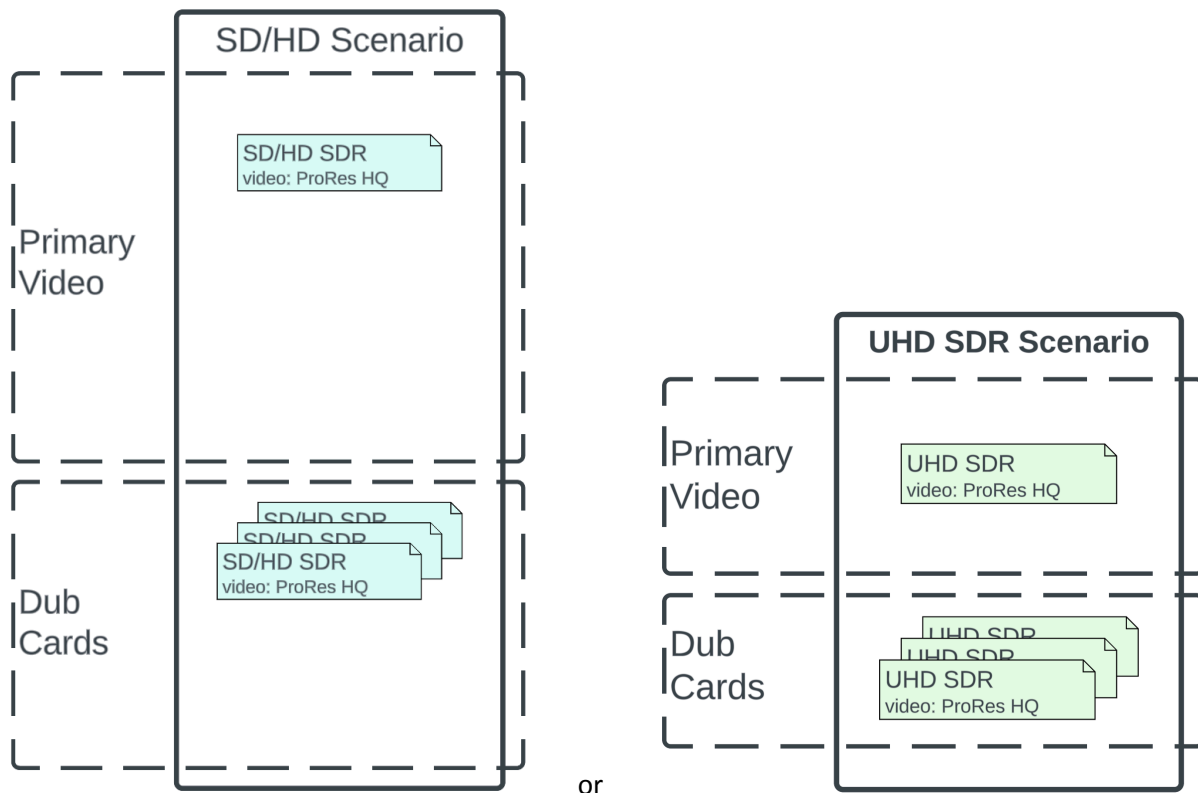


SD/HD Scenario: In order to support the SD or HD SDR consumer experience for a single aspect ratio, the following must be serviced per package (ALID)

- Single SD or HD SDR primary video
- Single SD or HD SDR dub card video per dubbed audio language

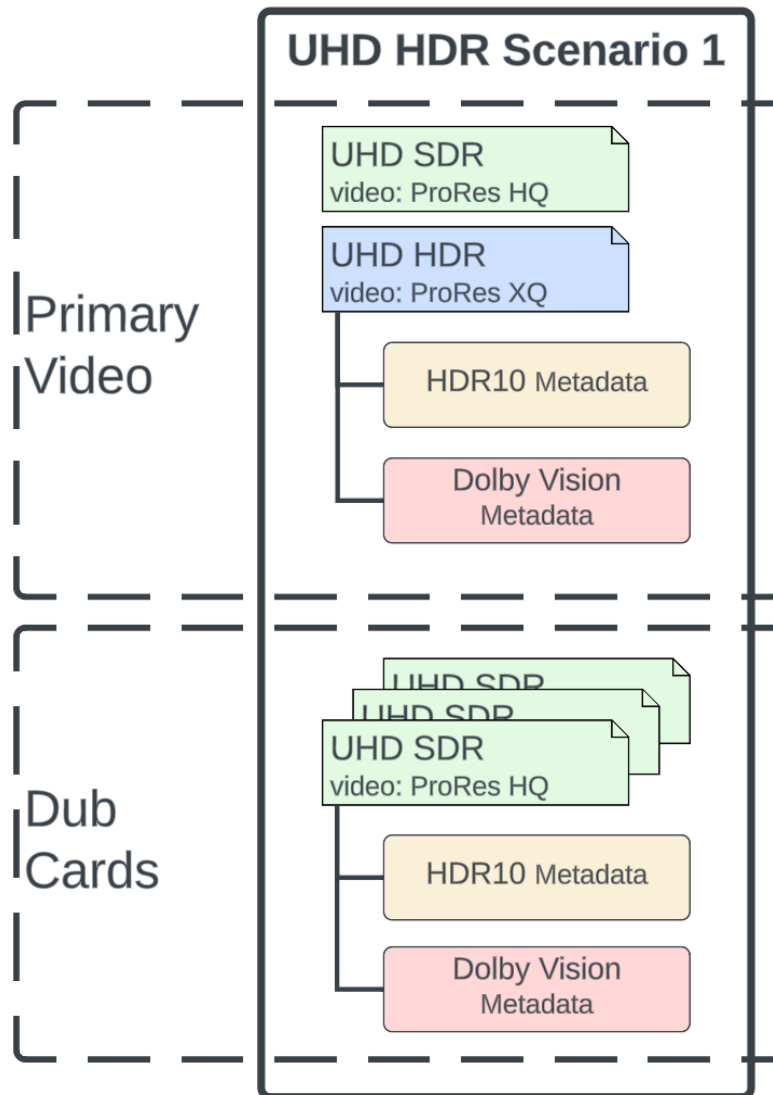
or

- Single UHD SDR primary video
- Single UHD SDR dub card video per dubbed audio language



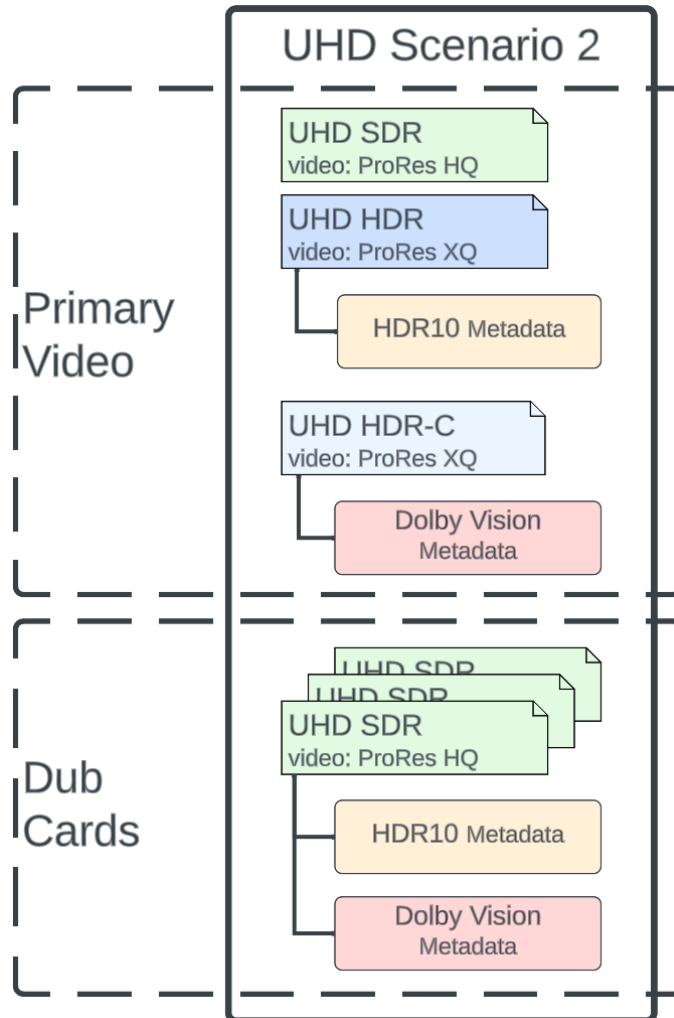
UHD Scenario 1: In order to support the UHD SDR and UHD HDR Dolby Vision & HDR10 customer experiences for a single aspect ratio using a single HDR video asset, the following must be serviced per package (ALID)

- Single UHD SDR primary video
- Single Constrained UHD HDR primary video with both Dolby Vision metadata & HDR10 metadata
- Single UHD SDR dub card video with the static Dolby Vision and HDR10 dub card metadata per dubbed audio language



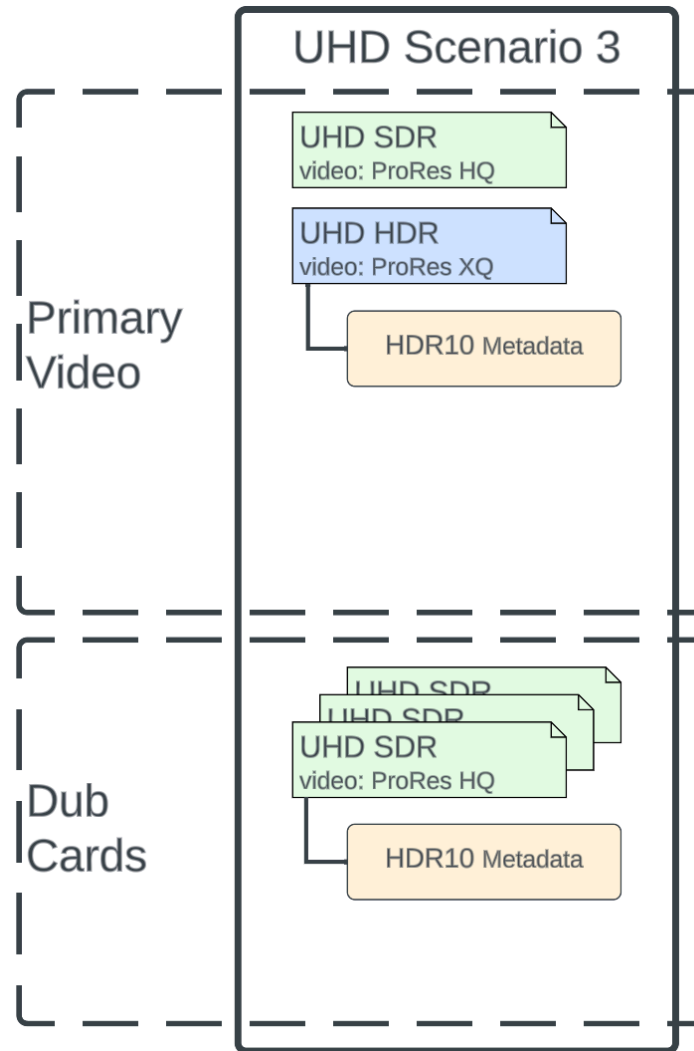
UHD Scenario 2: In order to support the UHD SDR and UHD HDR Dolby Vision & HDR10 customer experiences for a single aspect ratio, the following must be serviced per package (ALID)

- Single UHD SDR primary video
- An Unconstrained UHD HDR primary video with dedicated Dolby Vision metadata
- A Constrained UHD HDR primary video with dedicated HDR10 metadata
- Single UHD SDR dub card video with the static Dolby Vision and HDR10 dub card metadata per dubbed audio language



UHD Scenario 3: In order to support the UHD SDR and UHD HDR10 Only customer experiences for a single aspect ratio, the following must be serviced per package (ALID)

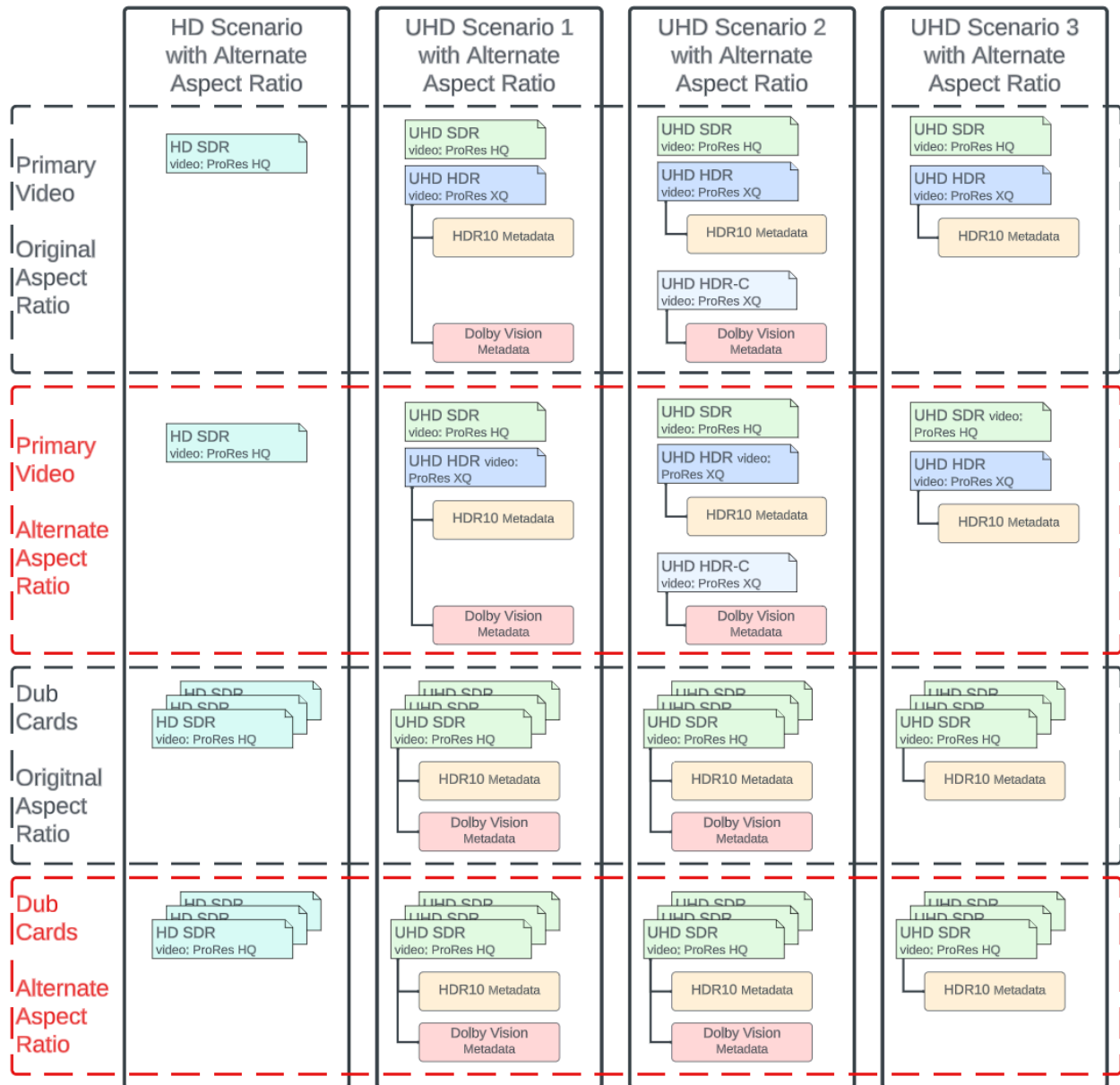
- Single UHD SDR primary video
- Single UHD HDR primary video with dedicated HDR10 metadata
- Single UHD SDR dub card video with the static HDR10 dub card metadata per dubbed audio language



3.1.3.2 Multiple Aspect Ratio Delivery & Format Requirements

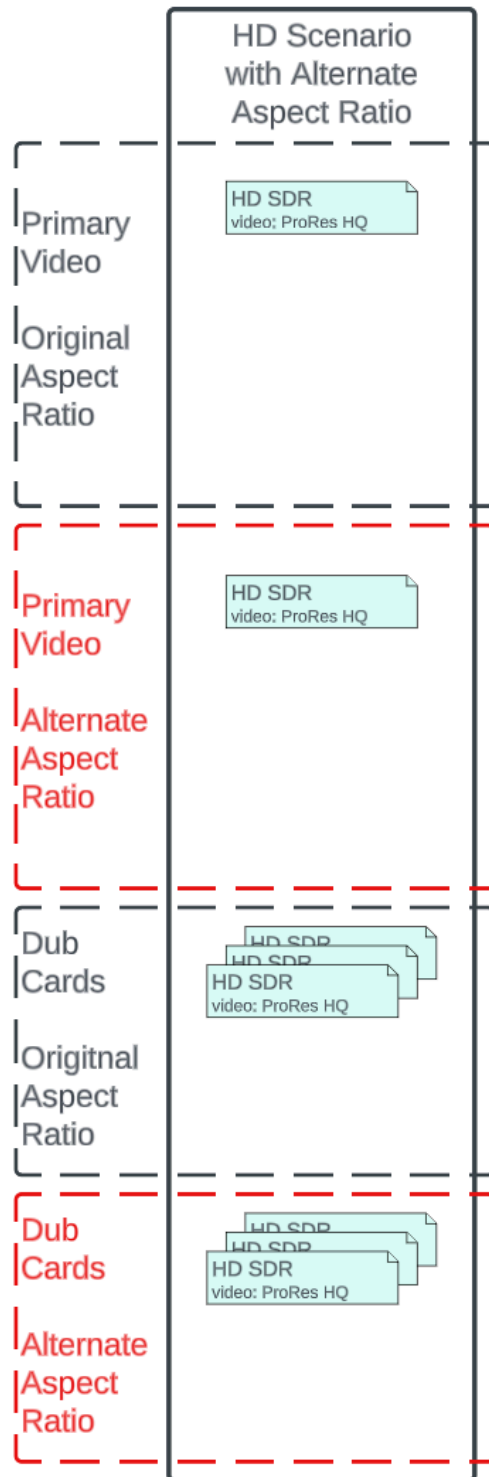
Servicing multiple aspect ratios within the same package for a single ALID is possible for HD and UHD content using one of the below servicing scenarios.

- For HD, this is leveraged to support the servicing of 1.78 and 1.33 aspect ratios of the same title.
- For UHD, this is leverage to support the servicing of the Original Aspect Ratio and the 1.90 IMAX Aspect Ratio for the same title.



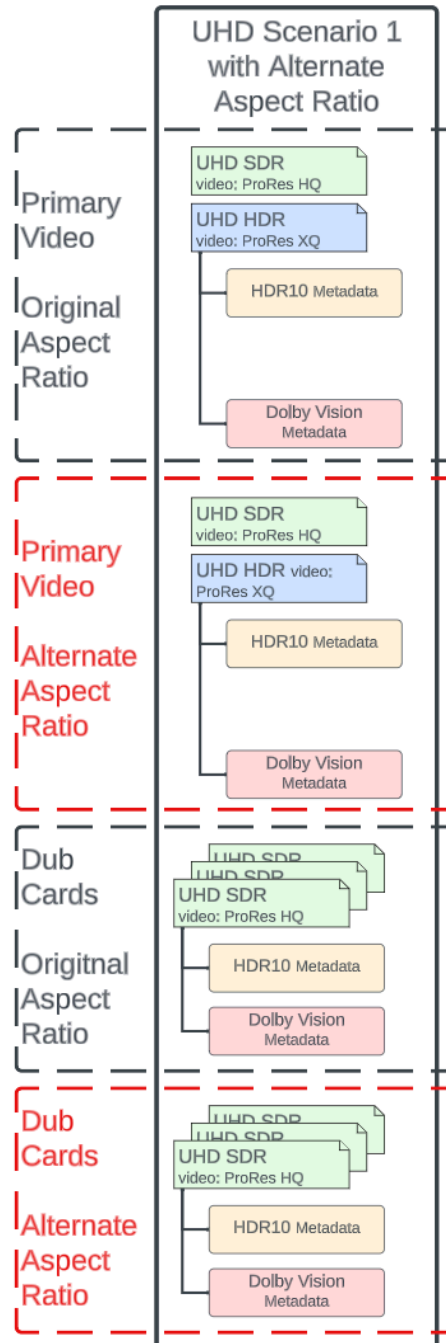
HD Scenario with Alternate Aspect Ratio: In order to support the HD SDR consumer experience for multiple aspect ratios, the following must be serviced per package (ALID)

- Single HD SDR primary video per SubType (Aspect Ratio)
- Single HD SDR dub card video per SubType (Aspect Ratio) and dubbed audio language



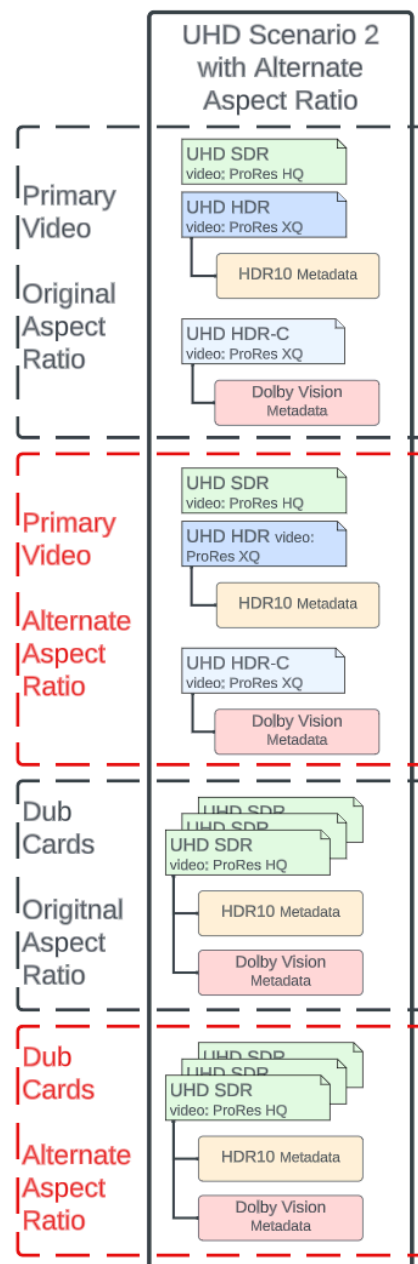
UHD Scenario 1 with Alternate Aspect Ratio: In order to support the UHD SDR and UHD HDR Dolby Vision & HDR10 customer experiences for multiple aspect ratios, the following must be serviced per package (ALID)

- Single UHD SDR primary video per SubType (Aspect Ratio)
- Single UHD HDR primary video per SubType (Aspect Ratio) with dedicated Dolby Vision and HDR10 metadata per SubType (Aspect Ratio)
- Single UHD SDR dub card video per SubType (Aspect Ratio) with the static Dolby Vision and HDR10 dub card metadata per SubType (Aspect Ratio) and dubbed audio language



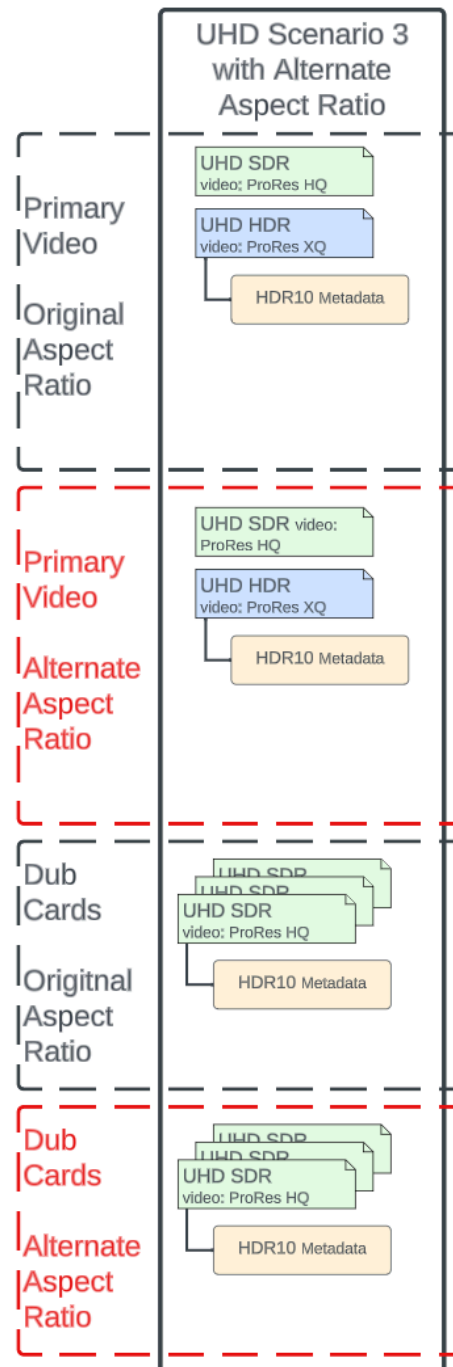
UHD Scenario 2 with Alternate Aspect Ratio: In order to support the UHD SDR and UHD HDR Dolby Vision & HDR10 customer experiences for multiple aspect ratios, the following must be serviced per package (ALID)

- Single UHD SDR primary video per SubType (Aspect Ratio)
- An Unconstrained UHD HDR primary video per SubType (Aspect Ratio) with dedicated Dolby Vision metadata per SubType (Aspect Ratio)
- An Constrained UHD HDR primary video per SubType (Aspect Ratio) with dedicated HDR10 metadata per SubType (Aspect Ratio)
- Single UHD SDR dub card video per SubType (Aspect Ratio) with the static Dolby Vision and HDR10 dub card metadata per SubType (Aspect Ratio) and dubbed audio language



UHD Scenario 3 with Alternate Aspect Ratio: In order to support the UHD SDR and UHD HDR10 Only customer experiences for multiple aspect ratios, the following must be serviced per package (ALID)

- Single UHD SDR primary video per SubType (Aspect Ratio)
- Single UHD HDR primary video per SubType (Aspect Ratio) with dedicated HDR10 metadata per SubType (Aspect Ratio)
- Single UHD SDR dub card video per SubType (Aspect Ratio) with the static HDR10 dub card metadata per SubType (Aspect Ratio) and dubbed audio language



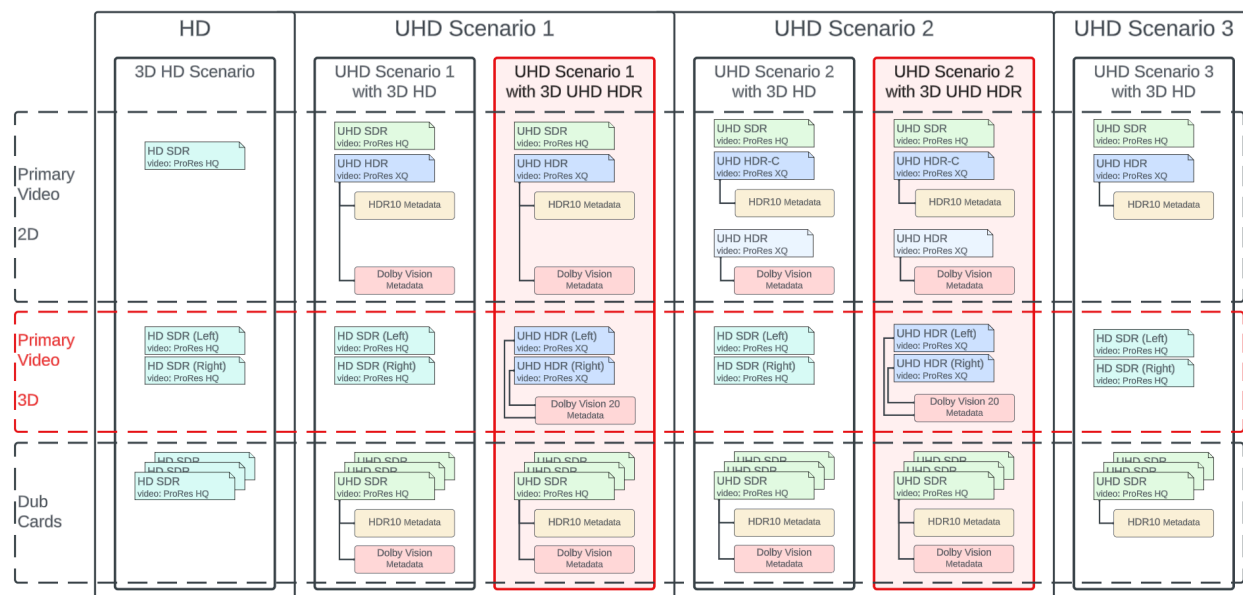
3.1.3.3 3D Delivery & Format Requirements

Note the following best practices and delivery requirements for 3D Content:

- For the initial 3D delivery, the Right Eye and Left Eye video components must be present. After the initial delivery, Right and Left Eye components may be redelivered separately from one another.
- For 3D Content deliveries, it is recommended that the 2D and 3D components be delivered as *separate* packages due to file size and timeout concerns.

3.1.3.3.4 2D Single Aspect Ratio and 3D Single Aspect Ratio Delivery & Format Requirements

Servicing a single aspect ratio with both a 2D and 3D experience is possible for HD and UHD content using one of the below servicing scenarios.



Initially, only UHD Scenario 1 with 3D UHD HDR and UHD Scenario 2 with 3D UHD HDR are expected.

- [UHD Scenario 1 with 3D UHD HDR](#)
- [UHD Scenario 2 with 3D UHD HDR](#)

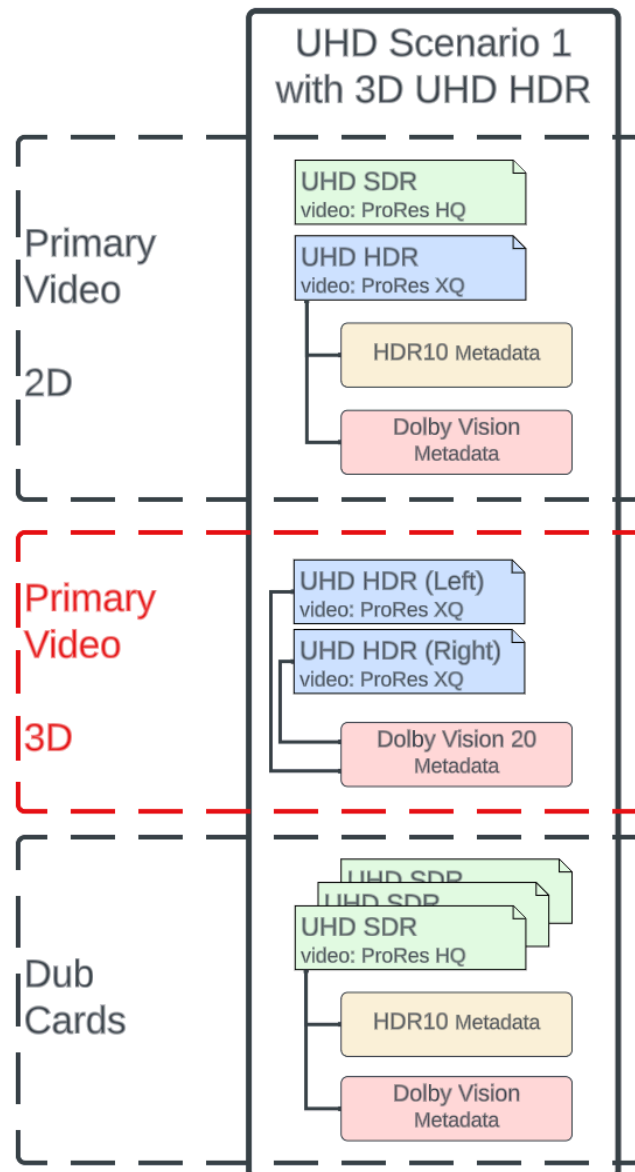
The following scenarios are not required initially, but are planned to be supported.

- [3D HD Scenario](#)
- [UHD Scenario 1 with 3D HD](#)
- [UHD Scenario 2 with 3D HD](#)
- [UHD Scenario 3 with 3D HD](#)

UHD Scenario 1 with 3D UHD HDR:

In order to support the UHD SDR and UHD HDR Dolby Vision & HDR10 2D and UHD HDR Dolby Vision 3D experiences for a single aspect ratio, the following must be serviced per package (ALID)

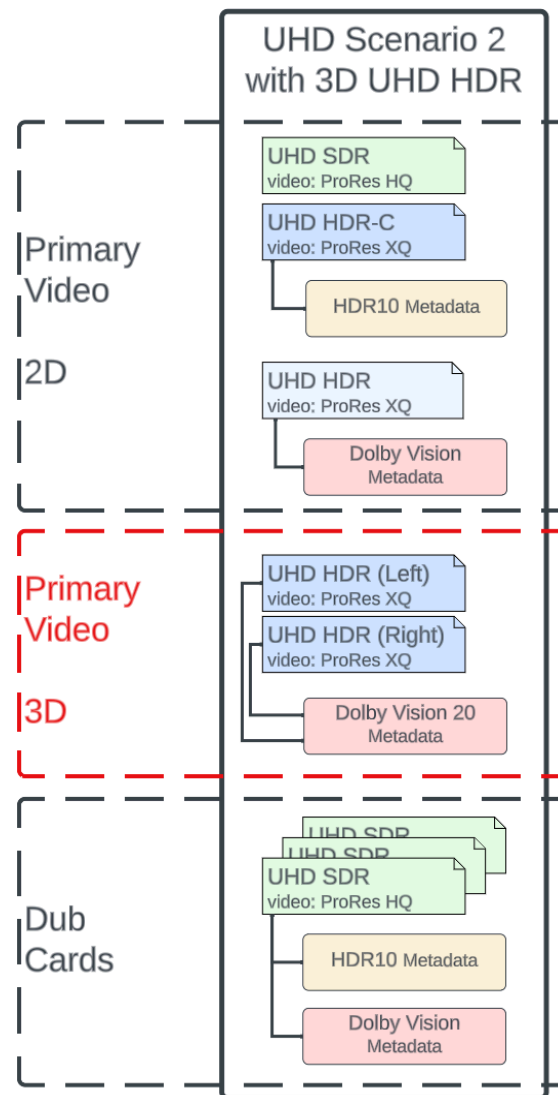
- Single 2D UHD SDR primary video
- Single 2D UHD HDR primary video with dedicated Dolby Vision and HDR10 metadata per SubType (Aspect Ratio)
- A discrete 3D UHD HDR primary video intended for the Left Eye
- A discrete 3D UHD HDR primary video intended for the Right Eye
- Single shared Dolby Vision p20 metadata for both the UHD HDR 3D Left & Right Eye
- Single 2D UHD SDR dub card video with the static Dolby Vision and HDR10 dub card metadata per dubbed audio language



UHD Scenario 2 with 3D UHD HDR:

In order to support the UHD SDR and UHD HDR Dolby Vision & HDR10 2D and UHD HDR Dolby Vision 3D experiences for a single aspect ratio, the following must be serviced per package (ALID)

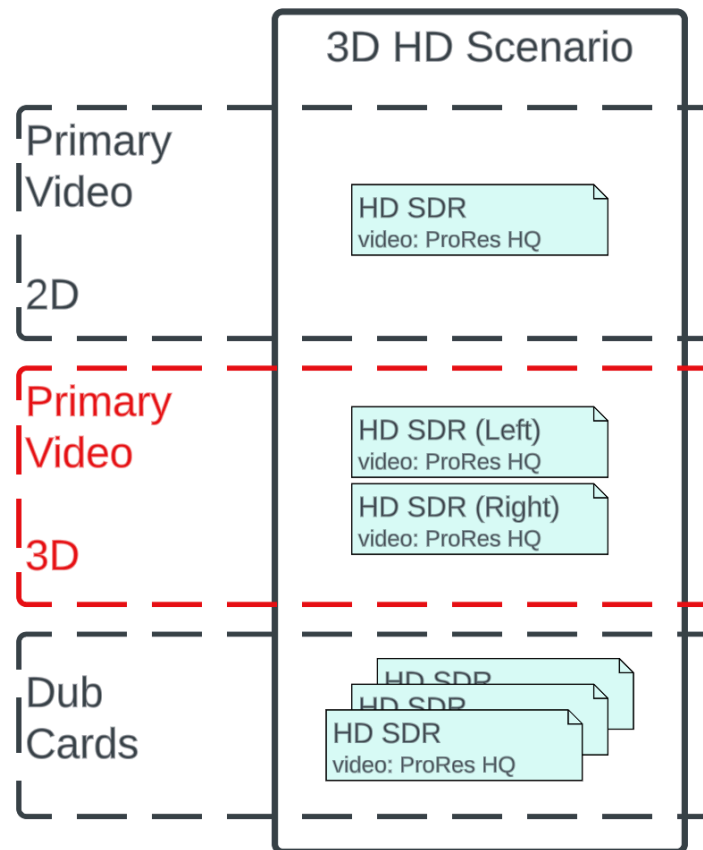
- Single UHD SDR primary video
- A Constrained UHD HDR primary video with dedicated HDR10 metadata per SubType (Aspect Ratio)
- An Unconstrained UHD HDR primary video with dedicated Dolby Vision metadata per SubType (Aspect Ratio)
- A discrete 3D UHD HDR primary video intended for the Left Eye
- A discrete 3D UHD HDR primary video intended for the Right Eye
- Single shared Dolby Vision p20 metadata for both the UHD HDR 3D Left & Right Eye
- Single UHD SDR dub card video with the static Dolby Vision and HDR10 dub card metadata per dubbed audio language



3D HD Scenario

In order to support the HD SDR 2D and HD SDR 3D experience for a single aspect ratio, the following must be serviced per package (ALID)

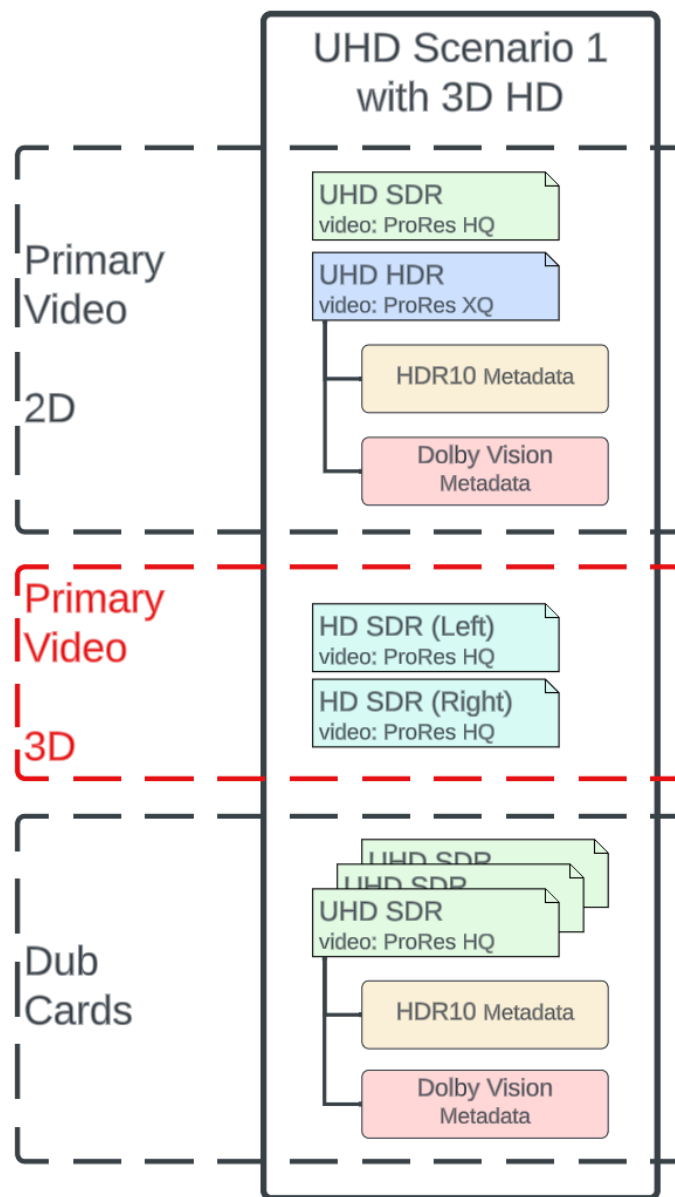
- Single 2D HD SDR primary video
- A discrete 3D HD SDR primary video intended for the Left Eye
- A discrete 3D HD SDR primary video intended for the Right Eye
- Single 2D HD SDR dub card video per dubbed audio language



UHD Scenario 1 with 3D HD:

In order to support the UHD SDR and UHD HDR Dolby Vision & HDR10 2D and HD SDR 3D experiences for a single aspect ratio, the following must be serviced per package (ALID)

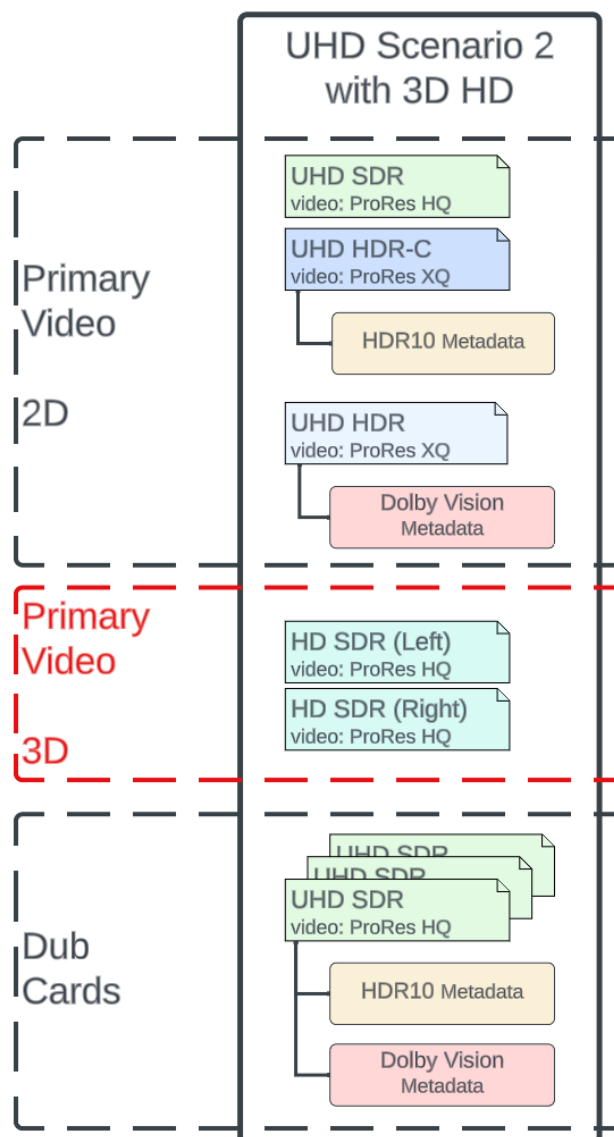
- Single 2D UHD SDR primary video
- Single 2D UHD HDR primary video with dedicated Dolby Vision and HDR10 metadata per SubType (Aspect Ratio)
- A discrete 3D HD SDR primary video intended for the Left Eye
- A discrete 3D HD SDR primary video intended for the Right Eye
- Single 2D UHD SDR dub card video with the static Dolby Vision and HDR10 dub card metadata per dubbed audio language



UHD Scenario 2 with 3D HD:

In order to support the UHD SDR and UHD HDR Dolby Vision & HDR10 2D and HD SDR 3D experiences for a single aspect ratio, the following must be serviced per package (ALID)

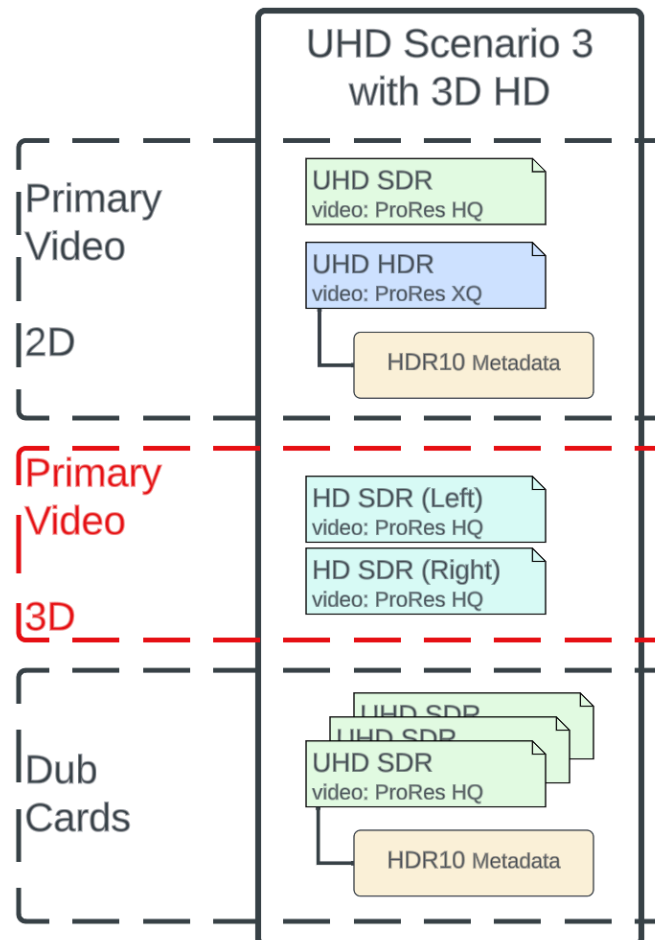
- Single UHD SDR primary video
- A Constrained UHD HDR primary video with dedicated HDR10 metadata per SubType (Aspect Ratio)
- An Unconstrained UHD HDR primary video with dedicated Dolby Vision metadata per SubType (Aspect Ratio)
- A discrete 3D HD SDR primary video intended for the Left Eye
- A discrete 3D HD SDR primary video intended for the Right Eye
- Single UHD SDR dub card video with the static Dolby Vision and HDR10 dub card metadata per dubbed audio language



UHD Scenario 3 with 3D HD:

In order to support the UHD SDR and UHD HDR10 Only 2D and HD SDR 3D experiences for a single aspect ratio, the following must be serviced per package (ALID)

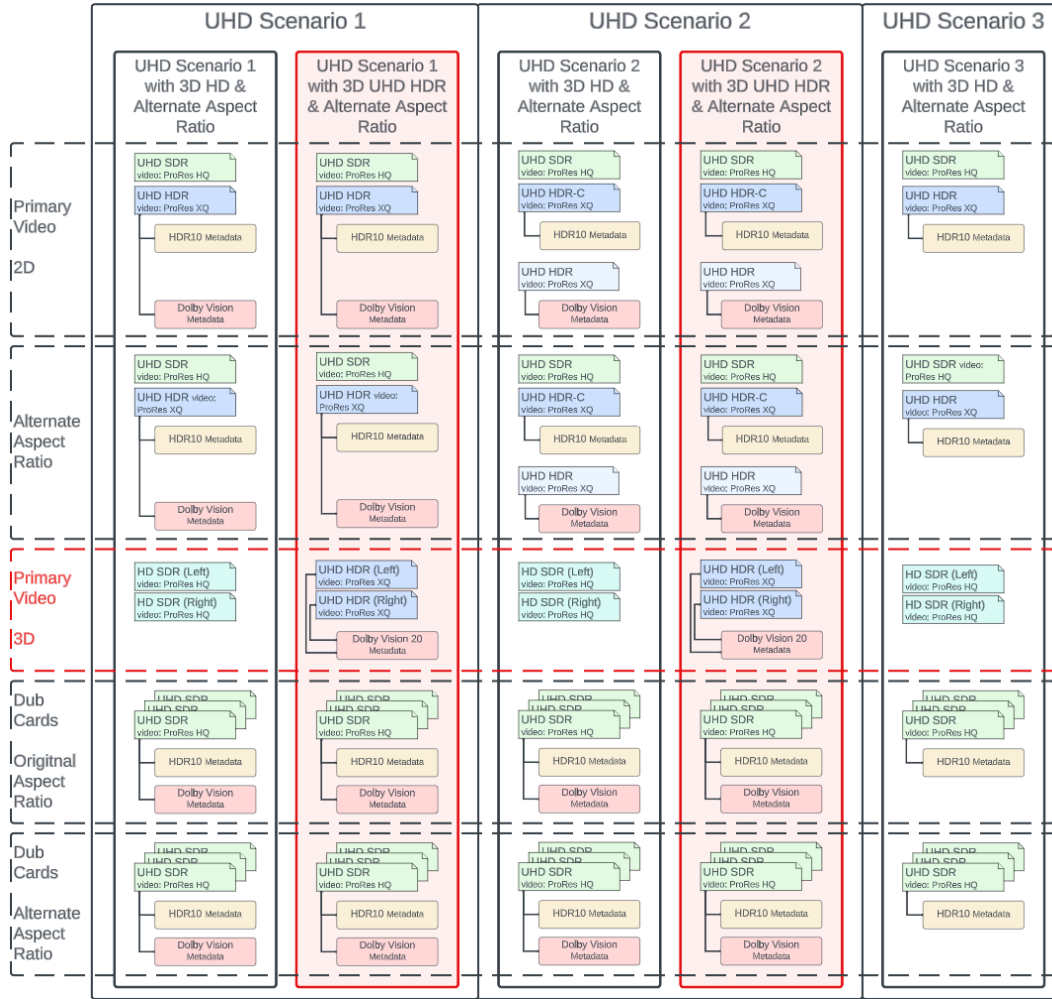
- Single UHD SDR primary video
- Single UHD HDR primary video with dedicated HDR10 metadata
- A discrete 3D HD SDR primary video intended for the Left Eye
- A discrete 3D HD SDR primary video intended for the Right Eye
- Single UHD SDR dub card video with the static HDR10 dub card metadata per dubbed audio language



3.1.3.3.5 Multiple Aspect Ratio with 3D Delivery & Format Requirements

Servicing multiple aspect ratios for the 2D experience and a 3D experience for the original aspect ratio is possible for UHD content using one of the below servicing scenarios.

- For UHD, this is leverage to support the servicing of the Original Aspect Ratio in both 2D and 3D experiences and the 1.90 IMAX Aspect Ratio in the 2D experience for the same title.



Initially, only UHD Scenario 1 with 3D UHD HDR & Alternate Aspect Ratio and UHD Scenario 2 with 3D UHD HDR & Alternate Aspect Ratio are expected.

- [UHD Scenario 1 with 3D UHD HDR & Alternate Aspect Ratio](#)
- [UHD Scenario 2 with 3D UHD HDR & Alternate Aspect Ratio](#)

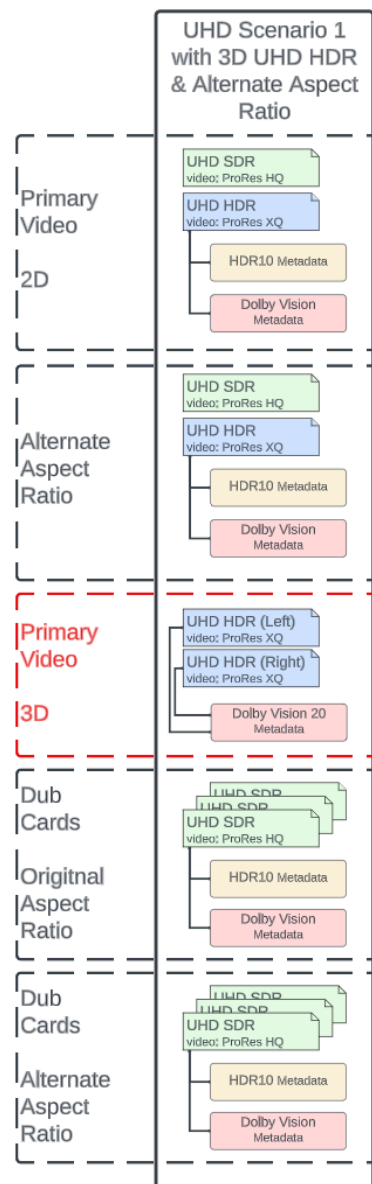
The following scenarios are not required initially, but are planned to be supported.

- [UHD Scenario 1 with 3D HD & Alternate Aspect Ratio](#)
- [UHD Scenario 2 with 3D HD & Alternate Aspect Ratio](#)
- [UHD Scenario 3 with 3D HD & Alternate Aspect Ratio](#)

UHD Scenario 1 with 3D UHD HDR & Alternate Aspect Ratio:

In order to support the UHD SDR and UHD HDR Dolby Vision & HDR10 2D for multiple aspect ratios and a UHD HDR Dolby Vision 3D experiences for the original aspect ratio (OAR), the following must be serviced per package (ALID)

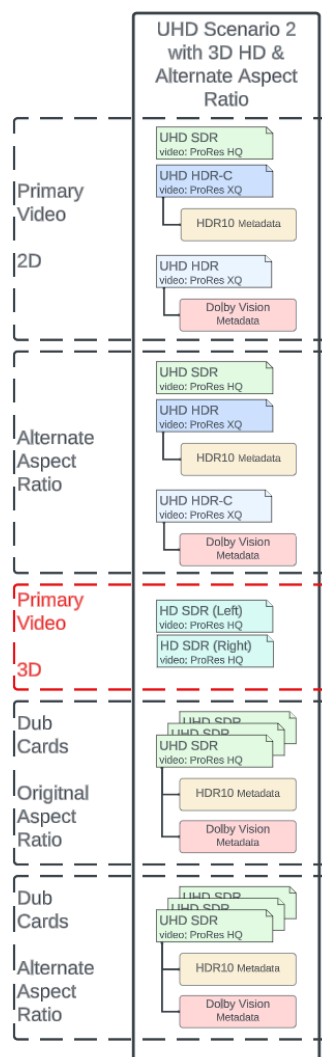
- Single 2D UHD SDR primary video per SubType (Aspect Ratio)
- Single 2D UHD HDR primary video per SubType (Aspect Ratio) with dedicated Dolby Vision and HDR10 metadata per SubType (Aspect Ratio)
- A discrete 3D UHD HDR primary video intended for the Left Eye of the default SubType (OAR)
- A discrete 3D UHD HDR primary video intended for the Right Eye of the default SubType (OAR)
- Single shared Dolby Vision p20 metadata for both the UHD HDR 3D Left & Right Eye
- Single 2D UHD SDR dub card video with the static Dolby Vision and HDR10 dub card metadata per dubbed audio language



UHD Scenario 2 with 3D UHD HDR & Alternate Aspect Ratio:

In order to support the UHD SDR and UHD HDR Dolby Vision & HDR10 2D for multiple aspect ratios and a UHD HDR Dolby Vision 3D experiences for the original aspect ratio (OAR), the following must be serviced per package (ALID)

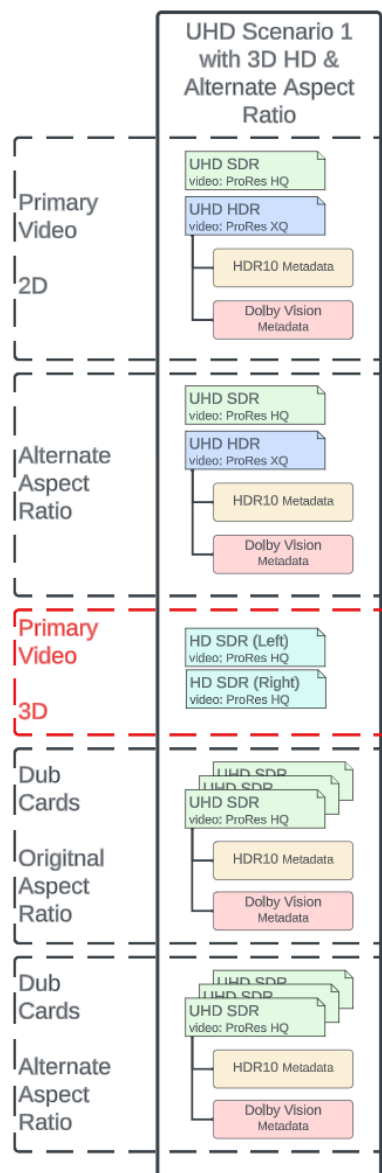
- Single UHD SDR primary video per SubType (Aspect Ratio)
- A Constrained UHD HDR primary video per SubType (Aspect Ratio) with dedicated HDR10 metadata per SubType (Aspect Ratio)
- An Unconstrained UHD HDR primary video per SubType (Aspect Ratio) with dedicated Dolby Vision metadata per SubType (Aspect Ratio)
- A discrete 3D UHD HDR primary video intended for the Left Eye of the default SubType (OAR)
- A discrete 3D UHD HDR primary video intended for the Right Eye of the default SubType (OAR)
- Single shared Dolby Vision p20 metadata for both the UHD HDR 3D Left & Right Eye
- Single UHD SDR dub card video with the static Dolby Vision and HDR10 dub card metadata per dubbed audio language



UHD Scenario 1 with 3D HD & Alternate Aspect Ratio:

In order to support the UHD SDR and UHD HDR Dolby Vision & HDR10 2D for multiple aspect ratios and an HD SDR 3D experiences for the original aspect ratio (OAR), the following must be serviced per package (ALID)

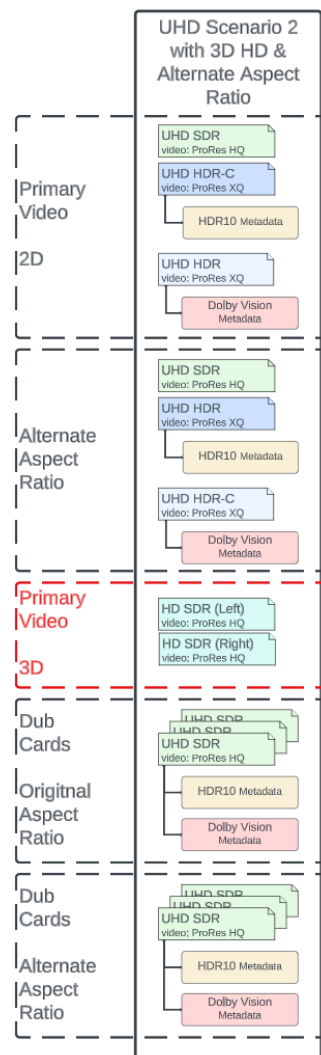
- Single 2D UHD SDR primary video per SubType (Aspect Ratio)
- Single 2D UHD HDR primary video per SubType (Aspect Ratio) with dedicated Dolby Vision and HDR10 metadata per SubType (Aspect Ratio)
- A discrete 3D HD SDR primary video intended for the Left Eye of the default SubType (OAR)
- A discrete 3D HD SDR primary video intended for the Right Eye of the default SubType (OAR)
- Single 2D UHD SDR dub card video with the static Dolby Vision and HDR10 dub card metadata per dubbed audio language



UHD Scenario 2 with 3D HD & Alternate Aspect Ratio:

In order to support the UHD SDR and UHD HDR Dolby Vision & HDR10 2D for multiple aspect ratios and an HD SDR 3D experiences for the original aspect ratio (OAR), the following must be serviced per package (ALID)

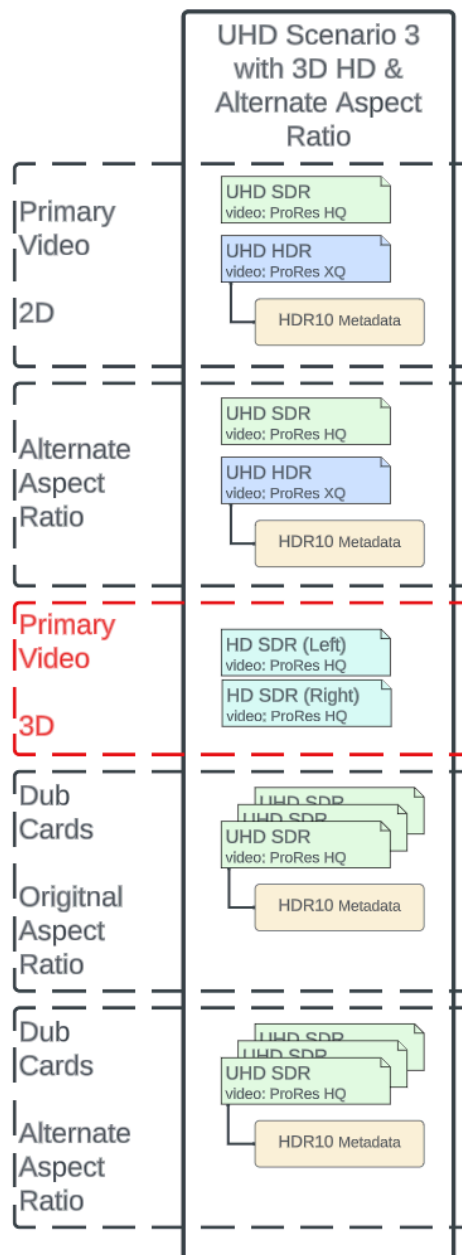
- Single UHD SDR primary video per SubType (Aspect Ratio)
- A Constrained UHD HDR primary video per SubType (Aspect Ratio) with dedicated HDR10 metadata per SubType (Aspect Ratio)
- An Unconstrained UHD HDR primary video per SubType (Aspect Ratio) with dedicated Dolby Vision metadata per SubType (Aspect Ratio)
- A discrete 3D HD SDR primary video intended for the Left Eye of the default SubType (OAR)
- A discrete 3D HD SDR primary video intended for the Right Eye of the default SubType (OAR)
- Single UHD SDR dub card video with the static Dolby Vision and HDR10 dub card metadata per dubbed audio language



UHD Scenario 3 with 3D HD & Alternate Aspect Ratio:

In order to support the UHD SDR and UHD HDR10 Only 2D for multiple aspect ratios and an HD SDR 3D experiences for the original aspect ratio (OAR), the following must be serviced per package (ALID)

- Single UHD SDR primary video per SubType (Aspect Ratio)
- Single UHD HDR primary video per SubType (Aspect Ratio) with dedicated HDR10 metadata
- A discrete 3D HD SDR primary video intended for the Left Eye of the default SubType (OAR)
- A discrete 3D HD SDR primary video intended for the Right Eye of the default SubType (OAR)
- Single UHD SDR dub card video with the static HDR10 dub card metadata per dubbed audio language



3.2 Video Specifications

Video assets may include embedded audio tracks (such as 5.1 and/or 2.0 or MOS), however these tracks will be ignored during ingestion and processing in favor of the separate audio deliverables. Any audio included in this manner should not be referenced as inventory within the MMC.

3.2.1 Ultra High Definition HDR - Apple ProRes 4444 (XQ)

Video Technical Requirements	
Container / Wrapper	Quicktime (.mov)
Timecode Track (not required)	If present, must start at 00:00:00:00
Codec	Apple ProRes 4444 (XQ)
Resolution	3840x2160
Display Aspect Ratio	16x9
Pixel Aspect Ratio	1:1
Frame Rate	23.976, 24, 25, 29.97, 47.952*, 48** [as source]
Scanning Method	Progressive
Bits per Sample	12 bits
Color Space	BT 2020
Mastering Display Color Space (Primaries)	P3 D65
EOTF	ST 2084 (PQ)
Mastering Peak Luminance	1000 nits
Quicktime Atoms	
NCLC Color	Required
FIEL (progressive vs interlaced)	Required
CLAP (Clean Aperture)	Not allowed

* 47.952 frame rates are only allowed for 3D video components and must be serviced with 23.976 2D video components

** 48 frame rates are only allowed for 3D video components and must be serviced with 24 2D video components

3.2.2 Ultra High Definition SDR - Apple ProRes 422 (HQ)

Video Technical Requirements	
Container / Wrapper	Quicktime (.mov)
Timecode Track (not required)	If present, must start at 00:00:00:00
Codec	Apple ProRes 422 (HQ)
Resolution	3840x2160
Display Aspect Ratio	16x9
Pixel Aspect Ratio	1:1
Frame Rate	23.976, 24, 25, 29.97 [as source]
Scanning Method	Progressive
Bits per Sample	10 bits
Color Space	BT 709
Quicktime Atoms	
NCLC Color	Required
FIEL (progressive)	Required
CLAP (Clean Aperture)	Not allowed

3.2.3 High Definition 1080p - Apple ProRes 422 (HQ)

Video Technical Requirements	
Container / Wrapper	Quicktime (.mov)
Timecode Track (not required)	If present, must start at 00:00:00:00
Codec	Apple ProRes 422 (HQ)
Resolution	1920x1080
Display Aspect Ratio	16x9
Pixel Aspect Ratio	1:1
Frame Rate	23.976, 24, 25, 29.97 [as source]
Scanning Method	Progressive
Bits per Sample	10 bits
Color Space	BT 709
Quicktime Atoms	
NCLC Color	Required
FIEL (progressive)	Required
CLAP (Clean Aperture)	Not allowed

3.2.4 High Definition 720p - Apple ProRes 422 (HQ)

Video Technical Requirements	
Container / Wrapper	Quicktime (.mov)
Timecode Track (not required)	If present, must start at 00:00:00:00
Codec	Apple ProRes 422 (HQ)
Resolution	1280x720
Display Aspect Ratio	16x9
Pixel Aspect Ratio	1:1
Frame Rate	23.976, 24, 59.94
Scanning Method	Progressive
Bits per Sample	10 bits
Color Space	BT 709
Quicktime Atoms	
NCLC Color	Required
FIEL (progressive)	Required
CLAP (Clean Aperture)	Not allowed

3.2.5 Standard Definition NTSC - Apple ProRes 422 (HQ)

Video Technical Requirements	
Container / Wrapper	Quicktime (.mov)
Timecode Track (not required)	If present, must start at 00:00:00:00
Codec	Apple ProRes 422 (HQ)
Resolution	720x480 or 720x486
Display Aspect Ratio	4x3 or 16x9
Pixel Aspect Ratio	8:9 (4x3) or 32:27 (16x9)
Frame Rate	23.976 if possible, otherwise 29.97
Scanning Method	Progressive or Interlaced
Bits per Sample	10 bits
Color Space	BT 601
Quicktime Atoms	
NCLC Color	Required
FIEL (progressive vs interlaced)	Required
CLAP (Clean Aperture)	Not allowed

3.2.6 Standard Definition PAL - Apple ProRes 422 (HQ)

Video Technical Requirements	
Container / Wrapper	Quicktime (.mov)
Timecode Track (not required)	If present, must start at 00:00:00:00
Codec	Apple ProRes 422 (HQ)
Resolution	720x576
Display Aspect Ratio	4x3 or 16x9
Pixel Aspect Ratio	16:15 (4x3) or 64:45 (16x9)
Frame Rate	25
Scanning Method	Progressive or Interlaced
Bits per Sample	10 bits
Color Space	BT 601
Quicktime Atoms	
NCLC Color	Required
FIEL (progressive vs interlaced)	Required
CLAP (Clean Aperture)	Not allowed

More details regarding video MDDF packaging requirements can be found in the [Media Asset Package Framework](#) section.

3.2.7 Frame Rate Requirements

Frame Rate	Numerator	Denominator
23.976	24000	1001
24	24	1
25	25	1
29.97	30000	1001
47.952*	48000*	1001*
59.94	60000	1001
48*	48*	1*

*Only 3D video components can be supplied with the 47.952fps and 48fps frame rates

*Unless the 3D components are being serviced as 47.954fps or 48fps, the 3D video components MUST be the EXACT same frame rate as the 2D primary video component(s) within the same package.

* UHD HDR 47.952fps 3D video components MUST be serviced within a package with 23.976fps 2D video components.

* UHD HDR 48fps 3D video components MUST be serviced within a package with 24fps 2D video components.

3.3 Audio Specifications

	Channel-Based	Object-Based
Container	Quicktime MOV	E-AC3 (pre-encoded .ec3)
Codec	PCM	Dolby Atmos
Sample Rate	48 KHz	48 KHz
ATMOS Bit Rate	N/A	768kbps
Equiv. Frame Rate	Native matching video source (23.976, 25, 29.97)	Native matching video source (23.976, 25, 29.97)
Bit Depth	24-bit	24-bit
Channel Configuration	See table below	Immersive

Channel	5.1	Stereo	Dual Mono
1	L	Lo/Lt	Mono
2	R	Ro/Rt	Mono
3	C		
4	LFE		
5	Ls		
6	Rs		

3.3.1 Additional Considerations

- Minimum requirements for a first time delivery of an ALID requires a 2.0 audio track that corresponds to the language declared for the primary video asset.
- Individual audio files are required for each distinct language dub and may not be combined.
- Each audio file shall break out channels into individual tracks (e.g. a stereo audio file will contain 2 tracks, a 5.1 would contain 6 tracks, etc.). Audio configurations with mixes on a single track are not supported (excluding Atmos).
- Dub credits do not include audio
- Each complete audio mix will be provided as a separate file and described by the Channels tag in the MMC. Audio tracks shall not be combined in a single track (5.1 & 2.0).
- 2.0 audio (inclusive of dual mono) is required, and adding additional audio mixes must include all mix types in sequence of complexity. For example, if Atmos audio is included, 5.1 and 2.0 configurations would be required.
- If a Forced Subtitle is included for a specific language, a corresponding dubbed audio track is required.
- Audio Description (AD), also known as Descriptive Video Service (DVS), is supported for all languages and channel configurations.
- Audio must conform to picture, and be the EXACT same duration as the Video asset within the same Presentation.
- More details regarding audio MDDF packaging requirements can be found in the [Media Asset Package Framework](#) section.

3.3.2 Atmos Considerations

- Atmos object-based audio deliverable varies based on in-home configuration.
- Atmos tracks will conform to the picture source and not require application of an offset value.
- Atmos tracks shall not include a timecode track in the header of the pre encoded E-AC3 file.

3.3.3 3D Considerations

3D and 2D components are serviced within the same package (ALID). As a result, there are no audio requirements for 3D.

- Any audio muxed within the 3D video components will be ignored.

3.4 Subtitles

3.4.1 IMSC specification

Technical Requirements	
IMSC Version	1.1 or 1.0.1
File Extension	ttml
Frame Rate	As source (typically 23.976 fps)
XML Schema Requirements: Header	
ttp:displayAspectRatio	Not used
XML Schema Requirements: Style	
tts:color	white
tts:backgroundColor	transparent
XML Schema Requirements: Region	
tts:backgroundColor	transparent
tts:displayAlign	after or before
tts:textAlign	center
tts:luminanceGain	3.0 recommended (IMSC 1.1 only)
XML Schema Requirements: P	
<time-expression> syntax	Frames (f)
Italic text syntax	

**Please note that Japanese subtitles have separate documentation. Please reach out to Disney for this document.*

3.4.2 Subtitle and Closed Captioning Style

This document can be found here: [Subtitles & Captions](#)

More details regarding subtitle MDDF packaging requirements can be found in the [Media Asset Package Framework](#) section.

3.4.3 3D Subtitle Considerations

3D and 2D components are serviced within the same package (ALID). As a result, there are no subtitle requirements for 3D.

- All subtitles provided for a 3D title will be reused for both the 2D and 3D experience. If placement of any subtitle is not desirable for either the 2D or 3D experience, the subtitle may be replaced with updated positioning information to provide the best possible experience for both the 2D and 3D experience. Separate subtitles for 2D and 3D experiences are NOT supported at this time.

3.5 Dolby Vision Metadata XML

3.5.1 Dolby Vision Specs and Validation

Disney requires a Dolby Vision metadata file to be included with any HDR master. These specifications can be found here: [Dolby Vision Metadata](#)

A few callouts from the above specification:

- The Dolby Vision XML shall be conformed to the applicable video asset.
- Record In value must be 0. For example:

```
<Record>
  <In>0</In>
  <Duration>24</Duration>
</Record>
```

- Contain L6 data even for a setting of zero

```
<Level6 level="6">
  <MaxCLL>0</MaxCLL>
  <MaxFALL>0</MaxFALL>
</Level6>
```

3.5.2 Dolby Vision Specs and Validation 3D Considerations

Disney requires a Dolby Vision metadata file to be included with the 3D UHD HDR video components. A single Dolby Vision metadata file is used by both the Left Eye and Right Eye video components. As a result, a single Dolby Vision p20 metadata MUST be supplied for UHD HDR content and packaged in accordance with the [Media Asset Packaging Framework](#) requirements for 3D content.

The Dolby Vision p20 specifications can be found here:

[Disney Dolby Vision Specifications](#)

A few callouts from the above specification:

- The Dolby Vision XML shall be conformed to the applicable 3D video assets.
- There is a different Dolby Vision specification for 3D and 2D, please take note of this difference and service appropriately based on the requirements within the [MovieLabs Ancillary packaging requirements of this specification](#)
- Record In value must be 0. Example:

```
<Record>
  <In>0</In>
  <Duration>24</Duration>
</Record>
```

3.6 Dub Card Sequence

3.6.1 Dub Card Considerations

The specification can be found here: [Dub Cards](#)

The dub card video sequence leverages the Video source profile that matches the profile of the primary video content that precedes it. For example, if the movie or episode is HD @ 23.976, the dub card video sequence must also be HD @ 23.976.

- There should be no black at the beginning or end of the sequence of cards.
- Each card should be 2 seconds each, but 4 seconds is allowed.
- One Dub Card Sequence will be provided for each instance of a dubbed audio language for which dubbing credits exist.
- Dub Cards shall consist of white text on black background.
- If audio tracks are included, they must be MOS.
- UHD resolution dub cards are required for content presented in UHD
- UHD Dub Cards MUST be SDR
- UHD SDR Dub Cards have the same Ancillary metadata requirements as their corresponding UHD Delivery Scenario.
 - For [UHD Delivery Scenarios 1 & 2](#), an ST 2086 metadata XML and Dolby Vision metadata XML MUST be provided for each dub card sequence's presentation and are associated using an Ancillary Track in the Inventory.
 - For [UHD Delivery Scenario 3](#), only the ST 2086 metadata XML MUST be provided for each dub card sequence's presentation and are associated using an Ancillary Track in the Inventory.
 - These are static files that can be referenced by multiple Ancillary Tracks within the inventory.
 - Both the static Dolby Vision metadata XML and ST 2086 metadata XML are available from your content onboarding contact.
- Active pixel height and width of the dub card MUST be identical to that of the Primary content

More details regarding dub card MDDF packaging requirements can be found in the [Media Asset Package Framework](#) section.

Note: Dub Cards will follow the spoken value within the MMC deliverable.

3.6.2 3D Dub Card Considerations

3D and 2D components are serviced within the same package (ALID). All dub cards for a 3D title will be used for both the 2D and 3D experience. Separate dub cards for 2D and 3D experiences are NOT supported. The dub card video sequence leverages the Video source profile that matches the profile of the **primary 2D video content that precedes it**. For example, if the primary 2D video components are UHD @ 23.976, the dub card video sequence must also be UHD @ 23.976 even if the primary 3D video components are HD @ 23.976.

- More details regarding dub card MDDF packaging requirements can be found in the [Media Asset Package Framework](#) section.

4 Language Support

4.1 Language Values

The languages and associated language codes listed below shall be used to provide consistency across MMC, MEC, and Rights Communication/Avails. In accordance with BCP 47 and W3C guidelines, locale tags have been appended only where it is necessary to provide distinguishing information. Macro languages shall otherwise be used to keep the string as short as possible.

Spoken Language	Spoken Language Code	Subtitle Language	Subtitle Language Code
Afrikaans	af^		af^
Albanian	sq^		sq^
Arabic (Modern Standard)	ar		ar
Arabic (Egyptian)	ar-EG		
Arabic (Syrian)	ar-SY		
Arabic (Saudi Arabia)	ar-SA		
Arabic (United Arab Emirates)	ar-AE		
Arabic (Kuwait)	ar-KW		
Arabic (Iraq)	ar-IQ		
Arabic (Lebanon)	ar-LB		
Arabic (Jordan)	ar-JO		
Arabic (Morocco)	ar-MA		
Arabic (Tunisia)	ar-TN		
Arabic (Qatar)	ar-QA		
Arapaho	arp^		arp^
Basque	eu^		eu^
Cantonese	yue	Chinese (Traditional)	zh-HK
Catalan	ca		ca
Choctaw	cho		cho
Comanche	com^		com^
Croatian	hr		hr
Czech	cs		cs
Danish	da		da
Dutch	n1		n1

English	en		en
English (Australia)	en-AU		en-AU
English (United Kingdom)	en-GB		en-GB
Finnish	fi		fi
Flemish	nl-BE		nl-BE
French (Canada)	fr-CA		fr-CA
French (France)	fr-FR		fr-FR
German	de		de
German (Austria)	de-AT		de-AT*
Greek	el		el
Hawaiian	haw		haw
Hebrew	he		he
Hindi	hi		hi
Hungarian	hu		hu
Icelandic	is		is
Indonesian	id		id
Italian	it		it
Japanese	ja		ja
Korean	ko		ko
Lakota	lkt		lkt^
Malay	ms		ms
Malayalam	ml		ml*
Mandarin (China)	cmn	Chinese (Simplified)	zh-Hans
Mandarin (Taiwan)	cmn-TW	Chinese (Traditional)	zh-Hant
Maori	mi		mi
Mohawk	moh		moh
Navajo	nv^		nv^
Northern Sami	se^		se^
Norwegian	no		no
Ojibwe	oj		oj^
Polish	pl		pl
Portuguese (Brazil)	pt-BR		pt-BR
Portuguese (Portugal)	pt-PT		pt-PT
Romanian	ro		ro

Sardinian	sc^		sc^
Slovak	sk		sk
Spanish Castilian (European)	es-ES		es-ES
Spanish (Latin America)	es-419		es-419
Swedish	sv		sv
Tagalog	tl^		tl^
Tahitian	ty^		ty^
Tamil	ta		ta*
Telugu	te		te*
Thai	th		th
Turkish	tr		tr
Vietnamese	vi		vi^
Xhosa	xh^		xh^
Zulu	zu^		zu^
No Linguistic Content	zxx		zxx

^ ingest supported, but not supported on Disney+ yet.

** Not yet supported*

4.2 Associated Languages

Packages containing assets of differing written and spoken languages require a specific association within the MMC. Forced subtitles should leverage the language code of the audio asset with which the forced subtitle is intended to be played.

- For Disney+, Forced Subtitles MUST use the written language code.
 - Disney+ will reject any forced Narrative using a spoken language code (i.e. ar-EG) because the Forced Narrative is used across all language dialects.
- For Hotstar, Forced subtitles MAY use either the written or spoken language code.
 - The Forced Subtitle will be automatically updated from the written language code to the spoken language code for Hotstar within SIP.

Spoken Language Name	Written Language Name	Audio Code	UI Code	Full Subtitle	Forced Subtitle
Egyptian Arabic	Arabic	ar	ar-EG	ar	ar-EG
Cantonese	Traditional Chinese (Hong Kong)	yue	zh-HK	zh-HK	yue
Mandarin	Simplified Chinese	cmn	zh-Hans	zh-Hans	cmn
Mandarin (Taiwan)	Traditional Chinese (Taiwan)	cmn-TW	zh-Hant	zh-Hant	cmn-TW

5 Content Markers

Temporal markers should be entered into the Disney centralized marker repository, [Mobius](#). Markers are added at the ALID level and can be added prior to, or after the first time delivery of an ALID to Disney+ or Hotstar. Once an initial package has been delivered for an ALID, any updates in [Mobius](#) that are published, will generate an MMC only update that is sent to Disney+ and Hotstar to update the markers. More details regarding the [Mobius](#) application and workflow can be found in the [Systems and Workflows](#) section of this specification.

5.1 Marker Vocabulary

5.1.1 Up Next

Description	Denotes when an overlay will appear to promote the next episode or recommended content in the post-play experience					
Marker Label	up_next					
Functionality	Surfaces post-play experience to promote the next episode or recommended content. At this point, content may be windowed and shrunk or playback may automatically transition to the next content.					
Requirement	Feature	Episode	Short	Trailer	Clip	Bonus
	REQUIRED Allowed: 1	REQUIRED Allowed: 1	REQUIRED Allowed: 1	N/A	N/A	N/A
Considerations	- For content subject to DGA or WGA obligations, the up_next marker must satisfy the Guild requirement of being placed after certain attributions. If in doubt, assume both DGA and WGA requirements apply. DGA: Directing credit is usually conveyed as "Directed by." It might also be "Director." WGA: Writing credits might be conveyed as any credit for writing or story, e.g., "Teleplay by," "Story by," "Written by," "Written for Television by," "Television Story by," "Screenplay by," or "Written for the Screen by." Creator credits might be "Created by," "Developed by," "Created for Television by," "Developed for Television by," "Story by," or "Screen Story by." - Producers and cast are not in scope for required Guild credits unless stated otherwise for a specific title. - For titles without Guild credits in the end credits (e.g., they are not used, they already appear in the opening credits, or the content is not subject to Guild requirements), place the up_next marker at the same time as the FFEC. - For titles that have "compelling credits" (e.g., they add to the story, are artistically creative, contain action, include a star talent sequence, etc.), place					

	the up_next marker at the point the credits transition to the card or crawl credits. Note: If the “compelling credits” continue through the end of the program, place the up_next marker at the end of the program. • Never place the up_next marker before the title’s end credits. • For titles without end credits, an up_next marker is still required. Place it at the end of the program. • For titles with mid-credit or post-credit scenes, place the up_next marker in its default location (see the first bullet point above). However, tag both mid-credit and post-credit scenes with <tag-start> and <tag-end> (see guidelines below). Note: TWDC owns the logic for displaying up_next based on the availability and timing of tag markers. • Ancillary content, such as next on, saga sell, or inside the episode, that appears post-credit must not be marked with tags: the standard up_next placement applies. It’s recommended that such content be delivered independently as extras.
--	---

5.1.2 Series Opening Title Sequence

Description	Mark-in and out points for start of series opening title sequence. intro_end - Marks the last frame of the opening sequence BEFORE the Guild credits (if included in the opening sequence. LFEI - Marks the last frame of the opening sequence without consideration for Guild credits)					
Marker Label	FFEI (First Frame of Episode Intro) intro_end LFEI (Last Frame of Episode Intro)					
Functionality	Allows a user to skip the introduction of series content					
Requirement	Feature	Episode	Short	Trailer	Clip	Bonus
	N/A	REQUIRED if content intro sequence is present Allowed: 0 -1	N/A	N/A	N/A	N/A
Considerations	• If included, both FFEI and intro_end are required. ◦ Note that intro_end is different than LFEI SMPTE label, as intro_end takes into consideration Guild credits. • This is not required if the series does not have an intro sequence. • This is still required even if the intro sequence is only a few seconds long.					

	• If the Guild credits (e.g. “Directed by,” “Created by,” “Written by”) are present within the intro, place the <code>intro_end</code> marker before the Guild credits appear so that they will not be skipped. • If there is unique creative content at the end of the introduction (e.g. the couch gag in The Simpsons), place the <code>intro_end</code> marker prior to this content.
--	--

5.1.3 End Credit Tags

Description	Denotes tag sections during/after end credits					
Marker Label	tag_start tag_end					
Functionality	Allows a user to bypass credits and advance to a tag after the credits sequence; Displays “Skip credits” button.					
Requirement	Feature	Episode	Short	Trailer	Clip	Bonus
	REQUIRED IF PRESENT Allowed: 0 - n	REQUIRED IF PRESENT Allowed: 0 - n	N/A	N/A	N/A	N/A
Considerations	• If included, both <code>tag_start</code> and <code>tag_end</code> are required. • Titles may contain multiple tag sequences (e.g. one in the credits and another after the conclusion of the crawl). Indicate all instances of tags with marker pairs.					

5.1.4 Episode, Season, and Series Recaps

Description	Denotes for episode, season, or series recap embedded within video					
Marker Label	FFER (First Frame of Episode Recap) LFER (Last Frame of Episode Recap)					
Functionality	Skips previously-on recap when appropriate for the user.					
Requirement	Feature	Episode	Short	Trailer	Clip	Bonus
	N/A	REQUIRED IF PRESENT Allowed: 0 - n	N/A	N/A	N/A	N/A
Considerations	• If included, both FFER and LFER are required. • This pair of markers is not applicable if the content does not have a recap.					

5.1.5 Product Placement

Description	Denotes any region within the content that includes paid product placement					
Marker Label	productplacement_start productplacement_end					
Functionality	None					
Requirement	Feature	Episode	Short	Trailer	Clip	Bonus
	REQUIRED if present Allowed: 0 - n	REQUIRED if present Allowed: 0 - n	N/A	N/A	N/A	N/A
Considerations	If included, both productplacement_start and productplacement_end are required.					

5.1.6 End Credits

Description	First Frame of End Credits. First displayable frame of content that contains any intensity of the End Credits (a non zero alpha value), which appear at the end of a feature Last Frame of End Credits. Last displayable frame of content that contains any intensity of the End Credits (a non zero alpha value), which appear at the end of a feature					
Marker Label	FFEC (First Frame of End Credits) LFEC (Last Frame of End Credits)					
Functionality	Data point used in logic for “continue watching” vs “watch history” behavior					
Requirement	Feature	Episode	Short	Trailer	Clip	Bonus
	REQUIRED Allowed: 1	REQUIRED Allowed: 1	REQUIRED Allowed: 1	N/A	N/A	N/A
Considerations	- If there are no End Credits, then this marker should be placed at the last frame of composition LFOC - If FFEC is used, then LFEC should also be included - Currently there is not a requirement to also include the LFEC SMPTE marker, but it is best practices					

5.1.7 Commercial Blacks

Description	First Frame of Commercial Blacks. First frame of black and silence leading into a commercial break slug within the video asset.					
	Last Frame of Commercial Blacks. Last Frame of black and silence coming out of a commercial break slug within the video asset.					
Marker Label	FFCB (First Frame of Commercial Blacks) LFCB (Last Frame of Commercial Blacks)					
Functionality	Data point used to identify the entry and exit points for Ad insertion into content that contains natural commercial breaks within the content.					
Requirement	Feature	Episode	Short	Trailer	Clip	Bonus
	REQUIRED IF PRESENT	REQUIRED IF PRESENT	REQUIRED IF PRESENT	N/A	N/A	REQUIRED IF PRESENT
Considerations	- FFCB and LFCB markers should only be used when the video asset contains commercial act breaks with slugs in the delivered video - Audio Silence = -60dBFS - All commercial break slugs should be marked - All FFCB markers MUST have a corresponding LFCB marker - as a result, there should always be the same number of FFCB and LFCB markers - There should be no markers between the FFCB and LFCB Marker - You MUST use the Marker Placements as defined in the Marker Placement section					

5.1.8 Commercial Break Candidates for Seamless Content

Description	Fixed Point Candidate Insertion.					
Marker Label	FPCI (Fixed Point Candidate Insertion)					
Functionality	Data point used to identify opportunities for Ad insertion into content mastered without commercial blacks					
Requirement	Feature	Episode	Short	Trailer	Clip	Bonus
	REQUIRED	REQUIRED if no commercial blacks	REQUIRED	N/A	N/A	REQUIRED if no commercial blacks
Considerations	- To avoid jarring transitions between content and ads, FPCI markers MUST be frame-accurate to the identifying cut / shot change - You MUST use the Marker Placements as defined in the Marker Placement section					

5.1.9 Additional SMPTE 2067-3 allowed markers (not required):

FFOC (First Frame of Composition)

LFOC (Last Frame of Composition)

FFTC (First Frame of Title Credits)

LFTC (Last Frame of Title Credits)

LFEI (Last Frame of Episode Intro)

FFPC (First Frame Promotional Clip)*

LFPC (Last Frame Promotional Clip)*

* FFPC and LFPC are not included in the MMC, but are leveraged for other workflow purposes.

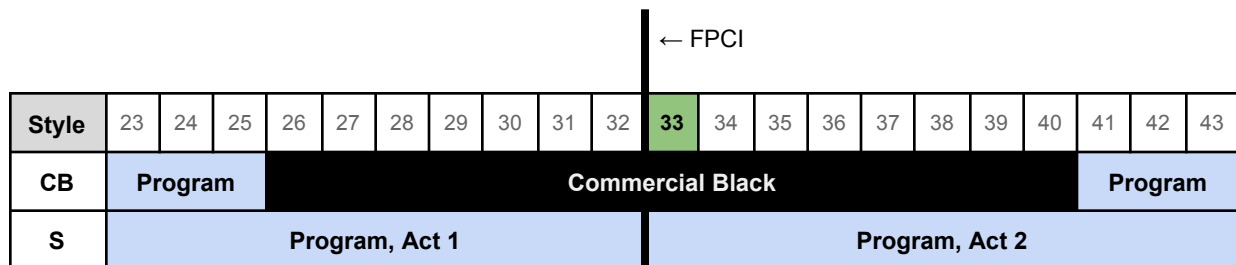
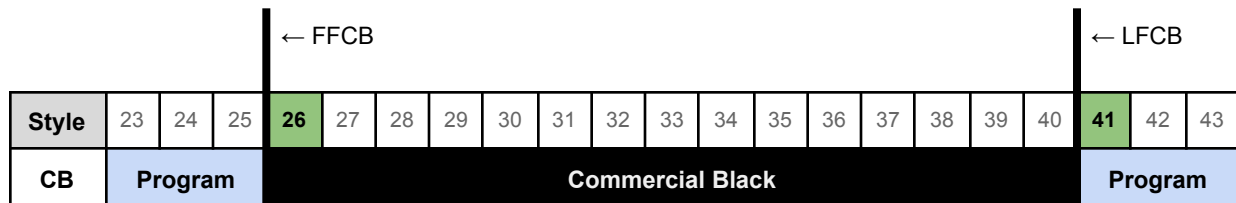
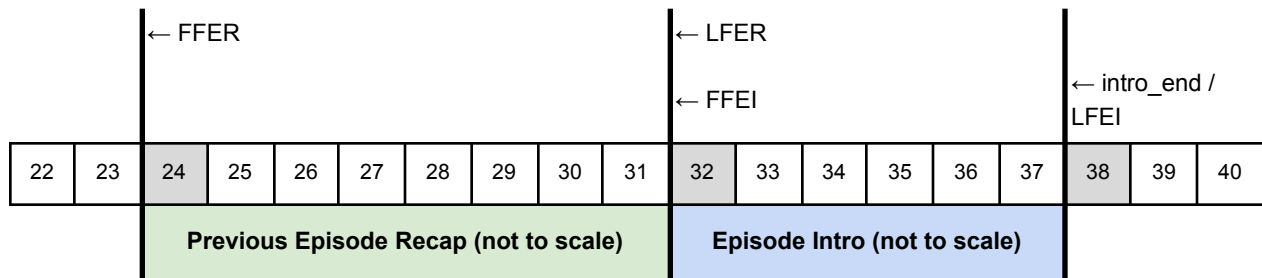
5.1.10 Supplementary Assets Clarification

With supplemental content being stitched into main picture content, the following table identifies what playback experience will trigger based upon the marker placement

	Season Recap	Previously On	Next On	Bonus
Description	Recaps past seasons to refresh or catch up.	Keeps viewers up to speed with past episodes.	A preview of the upcoming content in subsequent episodes.	Bonus clips are additional exclusive or premium content.
Placement Note	Stitched to the front of the program for Episode 1 only (For Season 2 onwards).	Stitched to the front of the program (Except Episode 1).	Stitched to the end of program.	Standalone File
Duration	N/A	Duration should be 30-45 seconds.	N/A	N/A
Burned In Text	N/A	“Previously On”	“Next On”	N/A
Textless Section	Texted sections must be included in textless deliverables.			N/A
Related Marker	FFER LFER	FFER LFER	up-next, tag_start, tag_end	N/A

5.2 Marker Placement

Per the approach outlined in the MovieLabs Media Manifest and SMPTE ST 2067-3:2016 IMF documentation, all marker locations are referring to an event that occurs on the left side of the described video frame when visualizing a sequence of frames on a timeline.



5.3 Ad Break Volume

Ad breaks specify where ads may be inserted, but Disney+ will not necessarily insert ads at every marked ad break. Talent approval considerations necessitate that more ad breaks be supplied upfront than will likely be used during viewer playback.

General requirements:

- Ad breaks should be placed at the natural conclusion of a narrative act or scene
 - Exception: No ad break markers during act/scene transitions with sound bridges
- No ad break markers at media start or end (ad break markers are for mid-roll ads only)

5.3.1 Episodes, Shorts, and Bonus (short-form)

Tip: For programs with commercial blacks, follow the volume implied by the commercial blacks. No additional ad breaks are expected or requested.

Program Duration (minutes)	<u>Minimum</u> Marked Ad Break Opportunities (more accepted)
0–8	0
8–15	1
15–20	2
20–30	3
30–40	4
40–50	5
50–60	6
60+	A break every ~8 minutes

5.3.2 Features and Bonus (long-form)

Tip: For features, repurposing chapter breaks as ad breaks is recommended; If repurposed, no additional ad breaks are expected or requested.

Program Duration (minutes)	<u>Minimum</u> Marked Ad Break Opportunities (more accepted)
60+	A break every 8–15 minutes

6 Media Asset Package Framework

Method

Hotstar and Disney+’s audiovisual source packages utilize the MovieLabs Media Manifest Core (MMC) v1.9 specification.

Comments

An in-depth understanding of the MovieLabs MMC specifications is assumed and therefore this document is not exhaustive, but complementary to the existing [MovieLabs MMC specification](#). MMC is a subset of the Common Manifest specification, simplified to support most common digital distribution scenarios. The Manifest comprises four key concepts: inventory, presentations, playable sequences, and experiences. See diagram within this section for their relationship to one another.

Considerations

Every playable asset is its own package. Multiple Experiences within a single package are not supported. Trailers, Bonus, Clips, Shorts, or other content that is typically thought of as having a relationship to a Feature or Episode is delivered as an individual package. The relationship is excluded from the MMC and is handled externally.

The Playable Sequence construct allows for assembling multiple presentations into a ‘playlist.’ It is important for this playlist to be supported during customer play-out as content may be prepended with a pre-roll logo or ‘bumper.’ Similarly, for content that has been dubbed in another language, it is a legal requirement to display a dub credit video item in the form of a post-roll dub card.

Experiences in the MMC are associated with the business terms within the Avail/Rights Communication via the ALID identifier.

References

[Movie Labs MMC Spec](#)

[Example MMC Documents](#)

6.1 Manifest Package Identifiers

An array of identifiers for title, content version, product experience, and assets are used throughout the workflow in order to accurately describe the elements being delivered and enable automation.

Identifiers must be universally unique. Disney licensing and fulfillment systems will provision IDs and supply them within the MDDF Package via the MMC.

- All EIDRs should be capitalized
- All IDs must only include the following allowed characters:
 - ABCDEFGHIJKLMNOPQRSTUVWXYZabcdefghijklmnopqrstuvwxyz0123456789-._~:~?#[]@!\$' *+, ; = % ()

- Packaging systems do not generate ContentIDs. ContentIDs will be provided in the order or by your Servicing Representative.

Value	Description	Naming Convention	Example
ManifestID	Product Manifest ID	md:ManifestID:eidr-x:[L2 EIDR]	md:manifestid:eidr-x:A47C-62E5-7F6F-4304-096F-0 md:manifestid:eidr-x:11A1-BC78-875D-A776-A1D4-I md:manifestid:eidr-x:40D1-EDFA-3792-2DDF-8773-8
AudioTrackID	Unique ID per individual audio asset. Usually appended with some level of metadata regarding type, language, and channel configuration, etc... to make it unique.	md:audtrackid:eidr-x:[L2 EIDR]:[FREEFORM]	md:audtrackid:eidr-x:A47C-62E5-7F6F-4304-096F-0:D ISNEYS DUCKTALES1987OVERALLSERIESS1F016.primary.episode.nl.20 md:audtrackid:eidr-x:11A1-BC78-875D-A776-A1D4-I: DisneyBunkDSeason4F069.primary.episode.en.51 md:audtrackid:eidr-x:40D1-EDFA-3792-2DDF-8773-8: episode.primary.st.es-es.aud
VideoTrackID	Unique ID per individual video asset. Usually appended with some level of metadata regarding type, language, and color space, etc... to make it unique.	md:vidtrackid:eidr-x:[L2 EIDR]:[FREEFORM]	md:vidtrackid:eidr-x:A47C-62E5-7F6F-4304-096F-0:DI SNEYS DUCKTALES1987OVERALLSERIESS1F016.episode.SDR.en md:vidtrackid:eidr-x:A47C-62E5-7F6F-4304-096F-0:DI SNEYS DUCKTALES1987OVERALLSERIESS1F016.dubcard.SDR.nl md:vidtrackid:eidr-x:11A1-BC78-875D-A776-A1D4-I:DisneyBunkDSeason4F069.episode.SDR.en md:vidtrackid:eidr-x:40D1-EDFA-3792-2DDF-8773-8:episode.primary.en.vid
SubtitleTrackID	Unique ID per individual subtitle asset. Usually appended with some level of metadata regarding type, language, etc... to make it unique.	md:subtrackid:eidr-x:[L2 EIDR]:[FREEFORM]	md:subtrackid:eidr-x:A47C-62E5-7F6F-4304-096F-0:D ISNEYS DUCKTALES1987OVERALLSERIESS1F016.normal.episode.fi md:subtrackid:eidr-x:11A1-BC78-875D-A776-A1D4-I: DisneyBunkDSeason4F069.SDH.episode.en md:subtrackid:eidr-x:40D1-EDFA-3792-2DDF-8773-8: episode.forced.fr-fr.sub
AncillaryTrackID	Unique ID per individual ancillary asset. Usually appended with some level of metadata regarding type, subtype, language, color space, etc... to make it unique. Provide for both HDR10 and Dolby Vision metadata. Provided for SDR Dub Cards in UHD packages.	md:anctrackid:eidr-x:[L2 EIDR]:[FREEFORM]	md:ancillarytrackid:eidr-x:C745-6B21-0FC0-70A0-9EC E-6:d2c.avengersendgam.ov.dubcardmetadata.ancillary.de.dovi md:ancillarytrackid:eidr-x:C745-6B21-0FC0-70A0-9EC E-6:d2c.avengersendgam.ov.dubcardmetadata.ancillary.de.hdr10 md:ancillarytrackid:eidr-x:EC30-BE9B-781F-D8E9-FAB E-9:feature.primary.hdr10.en.ancillary
ContentID	Product Metadata ID which must follow the exact	md:cid:org:disney.com:radar:[RadarProductID]	md:cid:org:disney.com:radar:5033

	Namespace and corresponding Radar ID		md:cid:org:disney.com:radar:188385 md:cid:org:disney.com:radar:197066
PresentationID	Unique presentation ID	md:presentationid:eidr-x:[L2 EIDR]:[FREEFORM]	md:presentationid:eidr-x:A47C-62E5-7F6F-4304-096F-0:DISNEYSDUCKTALES1987OVERALLSERIESS1F016.episode md:presentationid:eidr-x:A47C-62E5-7F6F-4304-096F-0:DISNEYSDUCKTALES1987OVERALLSERIESS1F016.dubcard.nl md:presentationid:eidr-x:11A1-BC78-875D-A776-A1D4-I:DisneyBunkDSeason4F069.episode md:presentationid:eidr-x:40D1-EDFA-3792-2DDF-8773-8:episode.en
PlayableSequenceID	ID of sequenced media	md:playablesequenceid:eidr-x:[L2 EIDR]:[FREEFORM]	md:playablesequenceid:eidr-x:A47C-62E5-7F6F-4304-096F-0:DISNEYSDUCKTALES1987OVERALLSERIESS1F016.episode md:playablesequenceid:eidr-x:11A1-BC78-875D-A776-A1D4-I:DisneyBunkDSeason4F069.episode md:playablesequenceid:eidr-x:40D1-EDFA-3792-2DDF-8773-8:episode
ExperienceID	The manifest ID that links to an ALID	md:experienceid:eidr-x:[L2 EIDR]:[FREEFORM]	md:experienceid:eidr-x:A47C-62E5-7F6F-4304-096F-0:DISNEYSDUCKTALES1987OVERALLSERIESS1F016.episode md:experienceid:eidr-x:11A1-BC78-875D-A776-A1D4-I:DisneyBunkDSeason4F069.episode md:experienceid:eidr-x:40D1-EDFA-3792-2DDF-8773-8:episode

6.2 MMC

All packages delivered to Disney+ and Hotstar leverage the concept of an audiovisual (AV) package. All artwork and metadata are delivered as separate packages to Disney+ and Hotstar and therefore the only reference to the MEC is via the ContentID in the AV package. The following outlines the elements in the MMC that are required for a Disney+ and Hotstar AV package.

6.3 Root

The following must be included within the root of the MMC.

@xmlns:manifest MUST use MovieLabs Manifest [v1.9](#)

- If delivering MMC 1.9, the @xmlns:md MUST use [MovieLabs Common Metadata 2.8](#)

@xmlns:xsi MUST use <http://www.w3.org/2001/XMLSchema-instance>

@ManifestID MUST use the corresponding Edit L2 EIDR for the Package

- Example: ManifestID="md:manifestid:eidr-x:40D1-EDFA-3792-2DDF-8773-8"

@updateNum MUST use the current GMT Unix Timestamp to ensure an incrementally larger unique value from the previously delivered package against the same ALID. The updateNum value MUST be unique for all deliveries, even for redeliveries due to failure in Disney+ Content Portal & Backstage.

- Example: updateNum="1589502664"
 - GMT Unix Timestamp Conversion: Friday, May 15th, 2020 12:31:04 AM

@updateDeliveryType MUST always be "AV"

- Example: updateDeliveryType="AV"

@workflow MUST match the corresponding Content Type. See [Appendix A](#) for full set of controlled values and combinations.

- Example: workflow="Episode"

@ExtraVersionReference MUST be human readable and should contain the Title of the content

- Example: ExtraVersionReference="Bart to the Future"

@versionDescription MUST be the Version Code provided in the Order

- Example: versionDescription="theatrical:ov:en"

6.4 Manifest Compatibility and Source

Disney+ and Hostar are currently accepting ONLY MMC 1.9.

manifest:SpecVersion MUST be 1.9.

manifest:Profile MUST be MMC-1

```
<manifest:Compatibility>
  <manifest:SpecVersion>1.9</manifest:SpecVersion>
  <manifest:Profile>MMC-1</manifest:Profile>
</manifest:Compatibility>
```

The Source Service Provider Display Name is a controlled value and used to drive automation, status messaging, and package remediation workflows. Each packaging system is free to establish and register a unique Service Provider Display Name, however once registered, the Display Name must remain consistent. Should you need to change your Display Name, you will need to coordinate this with your Service Representative and validate in a lower environment (detailed in the Systems and Workflow section).

md:DisplayName MUST always be your assigned Display Name.

```
<manifest:Source>
  <manifest:ServiceProvider>
    <md:DisplayName>DELTA</md:DisplayName>
  </manifest:ServiceProvider>
</manifest:Source>
```

6.5 Inventory

Inventory includes the video, audio, subtitle, and Ancillary (Dolby Vision & ST2086 XML) assets that are used within the Presentations, Playable Sequences, and Experiences within the MDDF package. Any asset listed in the Inventory must be referenced by one or more Presentations. Any asset referenced within a Presentation, must be present within the Inventory. Any asset referenced in the Inventory must either be included within the resources folder of the current delivery, or an active asset that has previously been delivered to Disney+ in a previously delivered MDDF package with the same ALID. The Inventory is the lowest level of granularity, as it contains all the assets that are included in the entire playback experience.

- All assets MUST contain a **manifest:ContainerReference** element containing a **manifest:ContainerLocation** element that references the declared asset using a relative path to the **resources/** folder.
- All file names and directory paths are case sensitive, and MUST match the actual files delivered.
- File names and directory paths MUST NOT include any spaces or illegal characters.
- All assets must include an MD5 Hash that is the calculated checksum of the associated asset.

Example:

```
<manifest:ContainerReference>
  <manifest:ContainerLocation>resources/Video_File.mov</manifest:ContainerLocation>
  <manifest:Hash method="MD5">85004093de3e54aedf4cd489d85e83b7</manifest:Hash>
</manifest:ContainerReference>
```

6.5.1 Audio

A **manifest:Audio** element MUST be provided for each audio asset delivered.

Each AudioTrackID MUST be unique and follow the [Manifest Package Identifiers](#) requirements.

md:Type MUST be included and set to one of the following based on the asset type.

Value	Description
primary	Any fully mixed content
narration	Audio Description included within the fully mixed content

Examples:

```
<md:Type>primary</md:Type>
<md:Type>narration</md:Type>
```

A **md:Encoding** element MUST be provided for DTS:X audio and MAY be provided for other audio assets delivered.

md:Codec

Value	Description
PCM	2 Channel Dual Mono or Stereo Audio Asset
PCM	6 Channel 5.1 Audio Asset
DOLBY-DDPLUS-ATMOS	Dolby Atmos Asset
DTS-X	DTS:X Assets for IMAX Enhanced

Examples:

```
<md:Encoding>
  <md:Codec>PCM</md:Codec>
  <md:Codec>DOLBY-DDPLUS-ATMOS</md:Codec>
  <md:Codec>DTS-X</md:Codec>
</md:Encoding>
```

md:Language MUST be included and set to one of the supported Spoken Language Codes.
@dubbed MUST be included if “true” and SHOULD be included in all cases.

Value	Description
false	Natively spoken language audio track
true	Dubbed audio track

Examples:

```
<md:Language dubbed="false">en</md:Language>  
<md:Language dubbed="true">es-419</md:Language>
```

md:Channels MUST be included, use the controlled vocabulary and match the channel configuration of the referenced audio asset.

Value	Description
2.0	2 Channel Dual Mono or Stereo Audio Asset
5.1	6 Channel 5.1 Audio Asset
Atmos	Dolby Atmos Asset (n number of Channels)
10	DTS:X Assets for IMAX Enhanced

Examples:

```
<md:Channels>2.0</md:Channels>
<md:Channels>5.1</md:Channels>
<md:Channels>Atmos</md:Channels>
<md:Channels>10</md:Channels>
```

MMC Audio Example

```
<manifest:Audio
AudioTrackID="md:audtrackid:eidr-x:DFEB-C52B-E83E-60DE-3E9C-F:Avengers.narration.feature.en.ad-20">
  <md:Type>narration</md:Type>
  <md:Language>en</md:Language>
  <md:Channels>2.0</md:Channels>
  <manifest:ContainerReference>
    <manifest:ContainerLocation>resources/AVENGERS_ENG_AD20.mov</manifest:ContainerLocation>
    <manifest:Hash method="MD5">f4e2881c0f202b0dfc5ba142397e33f3</manifest:Hash>
  </manifest:ContainerReference>
</manifest:Audio>
<manifest:Audio
AudioTrackID="md:audtrackid:eidr-x:DFEB-C52B-E83E-60DE-3E9C-F:Avengers.primary.feature.en.20">
  <md:Type>primary</md:Type>
  <md:Language>en</md:Language>
  <md:Channels>2.0</md:Channels>
  <manifest:ContainerReference>
    <manifest:ContainerLocation>resources/AVENGERS_en_20.mov</manifest:ContainerLocation>
    <manifest:Hash method="MD5">f4e2881c0f202b0dfc5ba142397e33f3</manifest:Hash>
  </manifest:ContainerReference>
</manifest:Audio>
<manifest:Audio
AudioTrackID="md:audtrackid:eidr-x:DFEB-C52B-E83E-60DE-3E9C-F:Avengers.primary.feature.en.51">
  <md:Type>primary</md:Type>
  <md:Language>en</md:Language>
  <md:Channels>5.1</md:Channels>
  <manifest:ContainerReference>
    <manifest:ContainerLocation>resources/AVENGERS_en_51.mov</manifest:ContainerLocation>
    <manifest:Hash method="MD5">8e7d978bc1a7b365410b914b2c6eccd6</manifest:Hash>
  </manifest:ContainerReference>
</manifest:Audio>
<manifest:Audio
AudioTrackID="md:audtrackid:eidr-x:DFEB-C52B-E83E-60DE-3E9C-F:Avengers.primary.feature.en.Atmos">
  <md:Type>primary</md:Type>
  <md:Encoding>
```

```

    <md:Codec>DOLBY-DDPLUS-ATMOS</md:Codec>
  </md:Encoding>  <md:Language>en</md:Language>
  <md:Channels>Atmos</md:Channels>
  <manifest:ContainerReference>
    <manifest:ContainerLocation>resources/AVENGERSINFINI_ATMOS_C_DSS.ec3</manifest:ContainerLocation>
    <manifest:Hash method="MD5">2dc7eaf985544493547e9d3c9a5da825</manifest:Hash>
  </manifest:ContainerReference>
</manifest:Audio>
<manifest:Audio
AudioTrackID="md:audtrackid:eidr-x:DFEB-C52B-E83E-60DE-3E9C-F:Avengers.primary.feature.en.dts-x">
  <md:Type>primary</md:Type>
  <md:Encoding>
    <md:Codec>DTS-X</md:Codec>
  </md:Encoding>
  <md:Language>en</md:Language>
  <md:Channels>10</md:Channels>
  <manifest:ContainerReference>
    <manifest:ContainerLocation>resources/AVENGERSINFINI_DTSX_C_DSS.dtsx</manifest:ContainerLocation>
    <manifest:Hash method="MD5">d297deebb9052a45b4c110a9c54ec9a1</manifest:Hash>
  </manifest:ContainerReference>
</manifest:Audio>
<manifest:Audio
AudioTrackID="md:audtrackid:eidr-x:DFEB-C52B-E83E-60DE-3E9C-F:Avengers.primary.feature.fr-CA.20">
  <md:Type>primary</md:Type>
  <md:Language dubbed="true">fr-CA</md:Language>
  <md:Channels>2.0</md:Channels>
  <manifest:ContainerReference>
    <manifest:ContainerLocation>resources/AVENGERS_INFINITYfrCA_20.mov</manifest:ContainerLocation>
    <manifest:Hash method="MD5">f4e2881c0f202b0dfc5ba142397e33f3</manifest:Hash>
  </manifest:ContainerReference>
</manifest:Audio>

```

6.5.2 Video

A **manifest:Video** element MUST be provided for each video asset delivered.

Each **VideoTrackID** MUST be unique and follow the [Manifest Package Identifiers](#) requirements.

md:Description MUST be included and set to one of the following based on the [HDR Grade](#) requirements within the [Technical Specifications \(A/V\)](#) section of this specification

Value	Description
SDR	Standard Dynamic Range content
HDR	High Dynamic Range content
HDR-C	Constrained High Dynamic Range content

Note: depending on the UHD Delivery Scenario, HDR could be used for either an unconstrained or constrained UHD video asset.

Example:

```
<md:Description>HDR-C</md:Description>
```

md:Type MUST be included and MUST always use a value of “primary”

md:SubType

Value	Description
default	Used for must deliveries to declare the default video asset
ImageAspectRatio=133	Used ONLY when delivering content with an image aspect ratio of 1.33 when also delivering the same content with a “default” image aspect ratio.
ImageAspectRatio=190	Used ONLY when delivering content with an image aspect ratio of 1.90 (IMAX) when also delivering the same content with a “default” image aspect ratio.

- **md:SubType** MUST be included.

Note: See [Appendix B - Multi-Aspect Ratio](#) for more details

Examples:

```
<md:SubType>default</md:SubType>  
<md:SubType>ImageAspectRatio=133</md:SubType>
```

md:Codec

Value	Description
PRORESHQ	SDR Content
PRORESXQ	HDR Content

- **md:Encoding** SHOULD be included for all video tracks and MUST be included for UHD HDR video tracks.
- **md:Codec** SHOULD be included for all video tracks and MUST be included for UHD HDR video tracks.

Example:

```
<md:Encoding>
  <md:Codec>PRORESXQ</md:Codec>
</md:Encoding>
```

md:Picture MUST be included

md:AspectRatio

Value	Description
4:3	Canvas Aspect Ratio is 4x3 (720x480, 720x486, or 720x576)
16:9	Canvas Aspect Ratio is 16x9 (1280x720, 1920x1080, or 3840x2160)

- MUST include **md:AspectRatio** based on the canvas aspect ratio.

Example:

```
<md:AspectRatio>16:9</md:AspectRatio>
```

md:PixelAspect

Value	Description
NTSC	720x480 or 720x486
PAL	720x576
square	1280x720, 1920x1080, or 3840x2160 (HD or UHD)
other	

- SHOULD include **md:PixelAspect** based on content

Example:

```
<md:PixelAspect>square</md:PixelAspect>
```

Supported pixel Width and Height combinations

md:WidthPixels	md:HeightPixels
720	480
720	486
720	576
1280	720
1920*	1080*
3840*	2160*

- MUST include **md:WidthPixels** and **md:HeightPixels** based on canvas dimensions.
 - *Pixel values MUST match the resolution of the video component referenced.
 - *Pixel values MUST be identical across all VideoTrackIDs with the same Type & Type3D (if present) combination.
 - *For 3D content, only 1920x1080 and 3840x2160 are currently supported.

Example:

```
<md:WidthPixels>3840</md:WidthPixels>  
<md:HeightPixels>2160</md:HeightPixels>
```

- MUST include **md:ActiveWidthPixels** and **md:ActiveHeightPixels** based on the image aspect ratio of the content.
 - Active Pixel values MUST be equal to or less than the Width and Height Pixels.
 - Active Pixel values MUST be identical across all VideoTrackIDs with the same SubType.
 - Active Pixel values MUST be identical across all VideoTrackIDs with the same SubType & Type3D (if present) combination.
 - The [Disney Aspect Ratio Line Chart](#) can be referenced to determine the appropriate Active Pixels.

Example:

```
<md:ActiveWidthPixels>3840</md:ActiveWidthPixels>  
<md:ActiveHeightPixels>1608</md:ActiveHeightPixels>
```

md:Type3D

Value	Description
left-only	3D Only - Used to declare the left eye mezzanine source component
right-only	3D Only - Used to declare the right eye mezzanine source component

- MUST include **md:Type3D** for both the Left and Right Eye components when servicing 3D content.
 - **md:Type3D** is not included or left empty when servicing 2D components.
- **md:Type3D** MUST NOT be present for Dub Cards. When 3D components are present, the 2D Dub Cards will be reused for both the 2D and 3D experience.

Example:

```
<md:Type3D>left-only</md:Type3D>  
<md:Type3D>right-only</md:Type3D>
```

md:Language MUST be included and set to one of the supported [Subtitle Language Codes](#).

6.5.3 Dub Cards

md:CardsetList MUST be included for all Dub Cards

md:Cardset MUST be included for all Dub Cards

md:Type

Value	Description
DubbingCredit	Used to declare the video track is a dub card

- **md:Type** MUST be included for all Dub Cards

md:Language MUST be included for all Dub Cards, set to one of the supported [Subtitle Language](#), and match the md:Picture block's md:Language.

Examples:

```
<md:Type>DubbingCredit</md:Type>
```

MMC 1.9 Video Track Example

```
<manifest:Video
VideoTrackID="md:vidtrackid:eidr-x:344E-BE97-4AB6-DE90-9A77-Y:episode.primary.en.vid">
  <md:Description>SDR</md:Description>
  <md:Type>primary</md:Type>
  <md:SubType>default</md:SubType>
  <md:Picture>
    <md:AspectRatio>16:9</md:AspectRatio>
    <md:PixelAspect>square</md:PixelAspect>
    <md:WidthPixels>1920</md:WidthPixels>
    <md:HeightPixels>1080</md:HeightPixels>
    <md:ActiveWidthPixels>1920</md:ActiveWidthPixels>
    <md:ActiveHeightPixels>1080</md:ActiveHeightPixels>
    <md:ColorEncoding>
      <md:Primaries>BT709</md:Primaries>
      <md:TransferFunction>BT1886</md:TransferFunction>
      <md:ColorDifferencing>BT709</md:ColorDifferencing>
    </md:ColorEncoding>
  </md:Picture>
  <md:Language>en</md:Language>
  <manifest:ContainerReference>
    <manifest:ContainerLocation>
resources/SimpsonsThe_HABF20_ORIG_V131871_INT_C_EST_PROHQ1080p_23_ENG_178_ENG-51ST_RT002201.
mov
    </manifest:ContainerLocation>
    <manifest:Hash method="MD5">dc560bd4236b386ee21735831fbd2e90</manifest:Hash>
  </manifest:ContainerReference>
</manifest:Video>
```

```

<manifest:Video
VideoTrackID="md:vidtrackid:eidr-x:344E-BE97-4AB6-DE90-9A77-Y:episode.primary.133.en.vid">
  <md:Description>SDR</md:Description>
  <md:Type>primary</md:Type>
  <md:SubType>ImageAspectRatio=133</md:SubType>
  <md:Picture>
    <md:AspectRatio>16:9</md:AspectRatio>
    <md:PixelAspect>square</md:PixelAspect>
    <md:WidthPixels>1920</md:WidthPixels>
    <md:HeightPixels>1080</md:HeightPixels>
    <md:ActiveWidthPixels>1440</md:ActiveWidthPixels>
    <md:ActiveHeightPixels>1080</md:ActiveHeightPixels>
    <md:ColorEncoding>
      <md:Primaries>BT709</md:Primaries>
      <md:TransferFunction>BT1886</md:TransferFunction>
      <md:ColorDifferencing>BT709</md:ColorDifferencing>
    </md:ColorEncoding>
  </md:Picture>
  <md:Language>en</md:Language>
  <manifest:ContainerReference>
    <manifest:ContainerLocation>
resources/SimpsonsThe_HABF20_ORIG_V131871_INT_C_EST_PROHQ1080p_23_ENG_133_ENG-51ST_RT002201.
mov
    </manifest:ContainerLocation>
    <manifest:Hash method="MD5">aa9a16ce1a73cc75d544f4c165fef0e7</manifest:Hash>
  </manifest:ContainerReference>
</manifest:Video>

```

MMC 1.9 Dub Card Example

```

<manifest:Video
VideoTrackID="md:vidtrackid:eidr-x:344E-BE97-4AB6-DE90-9A77-Y:feature.vid.it.dubcard">
  <md:Description>SDR</md:Description>
  <md:Type>primary</md:Type>
  <md:SubType>default</md:SubType>
  <md:Picture>
    <md:AspectRatio>16:9</md:AspectRatio>
    <md:PixelAspect>square</md:PixelAspect>
    <md:WidthPixels>1920</md:WidthPixels>
    <md:HeightPixels>1080</md:HeightPixels>
    <md:ActiveWidthPixels>1920</md:ActiveWidthPixels>
    <md:ActiveHeightPixels>1080</md:ActiveHeightPixels>
  </md:Picture>
  <md:Language>it</md:Language>
  <md:CardsetList>
    <md:Cardset>
      <md:Type>DubbingCredit</md:Type>
      <md:Language>it</md:Language>
    </md:Cardset>
  </md:CardsetList>
</manifest:Video>

```

```

</md:CardsetList>
<manifest:ContainerReference>
  <manifest:ContainerLocation>
resources/SimpsonsThe_HABF20_ORIG_V131871_INT_D_EST_DUBCARDMOVHD_23_ITA_133_MOS-XX_RT000004.
mov
  </manifest:ContainerLocation>
  <manifest:Hash method="MD5">7dc3942bc7fd271cc8dd765f3671d9ea</manifest:Hash>
</manifest:ContainerReference>
</manifest:Video>
<manifest:Video
VideoTrackID="md:vidtrackid:eidr-x:344E-BE97-4AB6-DE90-9A77-Y:feature.vid.133.it.dubcard">
  <md:Description>SDR</md:Description>
  <md:Type>primary</md:Type>
  <md:SubType>ImageAspectRatio=133</md:SubType>
  <md:Picture>
    <md:AspectRatio>16:9</md:AspectRatio>
    <md:PixelAspect>square</md:PixelAspect>
    <md:WidthPixels>1920</md:WidthPixels>
    <md:HeightPixels>1080</md:HeightPixels>
    <md:ActiveWidthPixels>1440</md:ActiveWidthPixels>
    <md:ActiveHeightPixels>1080</md:ActiveHeightPixels>
  </md:Picture>
  <md:Language>it</md:Language>
  <md:CardsetList>
    <md:Cardset>
      <md:Type>DubbingCredit</md:Type>
      <md:Language>it</md:Language>
    </md:Cardset>
  </md:CardsetList>
</manifest:ContainerReference>

<manifest:ContainerLocation>resources/SimpsonsThe_HABF20_ORIG_V131871_INT_D_EST_DUBCARDMOVHD
_23_ITA_133_MOS-XX_RT000004.mov</manifest:ContainerLocation>
  <manifest:Hash method="MD5">7dc3942bc7fd271cc8dd765f3671d9ea</manifest:Hash>
</manifest:ContainerReference>
</manifest:Video>

```

6.5.4 Subtitle

A **manifest:Subtitle** element MUST be provided for each subtitle asset delivered.
Each **SubtitleTrackID** MUST be unique and follow the [Manifest Package Identifiers](#) requirements.

md:Type

Value	Description
SDH	Used to declare a subtitle for the deaf or hard-of-hearing
normal	Used to declare a full subtitle track
forced	Used to declare a forced narrative subtitle track

- **md:Type** MUST be included and set to one of the following based on the asset type

Note: See the [Subtitles](#) section for more details.

Examples:

```
<md:Type>SDH</md:Type>
<md:Type>normal</md:Type>
<md:Type>forced</md:Type>
```

md:FormatType MUST always be set to “TTML”

md:Language MUST be included and set to one of the supported [Subtitled Language Codes](#).

Examples:

```
<md:Language>en</md:Language>
<md:Language>es-419</md:Language>
```

Subtitle Track Example

```
<manifest:Subtitle
  SubtitleTrackID="md:subtrackid:eidr-x:344E-BE97-4AB6-DE90-9A77-Y:episode.sdh.en.sub">
  <md:Type>SDH</md:Type>
  <md:FormatType>TTML</md:FormatType>
  <md:Language>en</md:Language>
  <manifest:ContainerReference>
    <manifest:ContainerLocation>
      resources/SimpsonsThe_SUBSDHIMSC_23_ENG.ttml
    </manifest:ContainerLocation>
    <manifest:Hash method="MD5">da62900ac5e507a72e57678eaf9a5f79</manifest:Hash>
  </manifest:ContainerReference>
</manifest:Subtitle>
<manifest:Subtitle
  SubtitleTrackID="md:subtrackid:eidr-x:344E-BE97-4AB6-DE90-9A77-Y:episode.forced.fr-ca.sub">
  <md:Type>forced</md:Type>
  <md:FormatType>TTML</md:FormatType>
  <md:Language>fr-CA</md:Language>
  <manifest:ContainerReference>
```

```

    <manifest:ContainerLocation>
      resources/SimpsonsThe_SUBFRCIMSC_23_FRC.ttml
    </manifest:ContainerLocation>
    <manifest:Hash method="MD5">797e76a7b2e17797f9ba5b4bdf3e0d09</manifest:Hash>
  </manifest:ContainerReference>
</manifest:Subtitle>
<manifest:Subtitle
SubtitleTrackID="md:subtrackid:eidr-x:344E-BE97-4AB6-DE90-9A77-Y:episode.normal.fr-ca.sub">
  <md:Type>normal</md:Type>
  <md:FormatType>TTML</md:FormatType>
  <md:Language>fr-CA</md:Language>
  <manifest:ContainerReference>
    <manifest:ContainerLocation>
      resources/SimpsonsThe_SUBFULIMSC_23_FRC.ttml
    </manifest:ContainerLocation>
    <manifest:Hash method="MD5">cc5ffe24f8211204f65465198f3c71a1</manifest:Hash>
  </manifest:ContainerReference>
</manifest:Subtitle>

```

6.5.5 Ancillary

The Ancillary Track is used to declare the Dolby Vision or ST2086 HDR metadata XML and associate that Ancillary track with the corresponding UHD VideoTrackID using the BaseTrackID. The Ancillary Track requirements vary between UHD Delivery Scenarios 1, 2, & 3. Please see the [HDR Grade](#) and [Dolby Vision](#) sections for more details.

A **manifest:Ancillary** element MUST be provided for each Ancillary asset delivered. Each **AncillaryTrackID** MUST be unique and follow the [Manifest Package Identifiers](#) requirements.

md:Type MUST always be set to “enhancement”

Example:

```
<md:Type>enhancement</md:Type>
```

md:SubType

Value	Description
dolbyvision	Used when declaring Dolby Vision metadata
hdr10	Used when declaring ST2086 metadata for either unconstrained or constrained HDR10 video sources

- **md:SubType** MUST be included and set to one of the following based on the asset type

Examples:

```

<md:SubType>dolbyvision</md:SubType>
<md:SubType>hdr10</md:SubType>

```

- **md:BaseTrackID** MUST reference the VideoTrackID of the corresponding video asset that the Dolby Vision or ST2086 metadata XML will be used with.

Example:

```
<md:BaseTrackID>
  md:vidtrackid:eidr-x:DFEB-C52B-E83E-60DE-3E9C-F:AvengersInfinityWar.dubcard.SDR.es-419
</md:BaseTrackID>
```

- A **md:BaseTrackID** will be referenced by multiple Ancillary Track ID's when delivering UHD Scenario 2 or for all UHD SDR Dub Cards delivered using Scenarios 1 or 2.
- The metadata from the corresponding video asset SHOULD be included within the **md:TrackMetadata** block.
- There is NEVER a scenario where ONLY Dolby Vision metadata would be supplied.

MMC 1.9: UHD Delivery Scenario 1 Ancillary Track Example

```
<manifest:Ancillary
  AncillaryTrackID="md:ancillarytrackid:eidr-x:1F4C-8B8A-5A9E-275D-AF23-Y:FINDINGNEMO.feature.
  nl.hdr10">
  <md:Type>enhancement</md:Type>
  <md:SubType>hdr10</md:SubType>
  <md:BaseTrackID>
    md:vidtrackid:eidr-x:1F4C-8B8A-5A9E-275D-AF23-Y:FINDINGNEMO.feature.HDR.nl
  </md:BaseTrackID>
  <md:TrackMetadata>
    <md:Video>
      <md:Description>HDR</md:Description>
      <md:Type>primary</md:Type>
      <md:SubType>default</md:SubType>
      <md:Encoding>
        <md:Codec>PRORESXQ</md:Codec>
      </md:Encoding>
      <md:Picture>
        <md:AspectRatio>16:9</md:AspectRatio>
        <md:PixelAspect>square</md:PixelAspect>
        <md:WidthPixels>3840</md:WidthPixels>
        <md:HeightPixels>2160</md:HeightPixels>
        <md:ActiveWidthPixels>3840</md:ActiveWidthPixels>
        <md:ActiveHeightPixels>2160</md:ActiveHeightPixels>
      </md:Picture>
      <md:Language>nl</md:Language>
    </md:Video>
  </md:TrackMetadata>
  <manifest:ContainerReference>
    <manifest:ContainerLocation>resources/2086_rec2020_v9.xml</manifest:ContainerLocation>
    <manifest:Hash method="MD5">5280ac8b2bac70eb153f0787e39823cf</manifest:Hash>
  </manifest:ContainerReference>
```

```

</manifest:Ancillary>
<manifest:Ancillary
AncillaryTrackID="md:ancillarytrackid:eidr-x:1F4C-8B8A-5A9E-275D-AF23-Y:FINDINGNEMO.feature.
nl.dolbyvision">
  <md:Type>enhancement</md:Type>
  <md:SubType>dolbyvision</md:SubType>
  <md:BaseTrackID>
    md:vidtrackid:eidr-x:1F4C-8B8A-5A9E-275D-AF23-Y:FINDINGNEMO.feature.HDR.nl
  </md:BaseTrackID>
  <md:TrackMetadata>
    <md:Video>
      <md:Description>HDR</md:Description>
      <md:Type>primary</md:Type>
      <md:SubType>default</md:SubType>
      <md:Encoding>
        <md:Codec>PRORESXQ</md:Codec>
      </md:Encoding>
      <md:Picture>
        <md:AspectRatio>16:9</md:AspectRatio>
        <md:PixelAspect>square</md:PixelAspect>
        <md:WidthPixels>3840</md:WidthPixels>
        <md:HeightPixels>2160</md:HeightPixels>
        <md:ActiveWidthPixels>3840</md:ActiveWidthPixels>
        <md:ActiveHeightPixels>2160</md:ActiveHeightPixels>
      </md:Picture>
      <md:Language>nl</md:Language>
    </md:Video>
  </md:TrackMetadata>
</manifest:ContainerReference>
  <manifest:ContainerLocation>
    resources/adj-trimmed-FINDINGNEMO_TH-HDR_META-DOVI-LP_2160P23_178_ENG-ENG_3997291.xml
  </manifest:ContainerLocation>
  <manifest:Hash method="MD5">8bbcf5a51de03001a23204d946ed65ce9</manifest:Hash>
</manifest:ContainerReference>
</manifest:Ancillary>

```

MMC 1.9: UHD Delivery Scenario 2 Ancillary Track Example

```

<manifest:Ancillary
AncillaryTrackID="md:ancillarytrackid:eidr-x:dfeb-c52b-e83e-60de-3e9c-f:d2c.avengersinfini.o
v.featuremetadata.ancillary.en.hdr10">
  <md:Type>enhancement</md:Type>
  <md:SubType>hdr10</md:SubType>
  <md:BaseTrackID>
    md:vidtrackid:eidr-x:DFEB-C52B-E83E-60DE-3E9C-F:AvengersInfinityWar.primary.HDR-C.en
  </md:BaseTrackID>
  <md:TrackMetadata>
    <md:Video>
      <md:Description>HDR-C</md:Description>

```

```

<md:Type>primary</md:Type>
<md:SubType>default</md:SubType>
<md:Encoding>
  <md:Codec>PRORESXQ</md:Codec>
</md:Encoding>
<md:Picture>
  <md:AspectRatio>16:9</md:AspectRatio>
  <md:PixelAspect>square</md:PixelAspect>
  <md:WidthPixels>3840</md:WidthPixels>
  <md:HeightPixels>2160</md:HeightPixels>
  <md:ActiveWidthPixels>3840</md:ActiveWidthPixels>
  <md:ActiveHeightPixels>1608</md:ActiveHeightPixels>
</md:Picture>
<md:Language>en</md:Language>
</md:Video>
</md:TrackMetadata>
<manifest:ContainerReference>
  <manifest:ContainerLocation>
    resources/AVENGERSINFINI_TH-HDR-C_META-2086-LP_2160P23_239_ENG-ENG_3832543_v9.xml
  </manifest:ContainerLocation>
  <manifest:Hash method="MD5">c3a77f407148347add86b00d74e8d227</manifest:Hash>
</manifest:ContainerReference>
</manifest:Ancillary>
<manifest:Ancillary
  AncillaryTrackID="md:ancillarytrackid:eidr-x:dfeb-c52b-e83e-60de-3e9c-f:d2c.avengersinfini.o
  v.featuremetadata.ancillary.en.dovi">
  <md:Type>enhancement</md:Type>
  <md:SubType>dolbyvision</md:SubType>
  <md:BaseTrackID>
    md:vidtrackid:eidr-x:DFEB-C52B-E83E-60DE-3E9C-F:AvengersInfinityWar.primary.HDR.en
  </md:BaseTrackID>
  <md:TrackMetadata>
    <md:Video>
      <md:Description>HDR</md:Description>
      <md:Type>primary</md:Type>
      <md:SubType>default</md:SubType>
      <md:Encoding>
        <md:Codec>PRORESXQ</md:Codec>
      </md:Encoding>
      <md:Picture>
        <md:AspectRatio>16:9</md:AspectRatio>
        <md:PixelAspect>square</md:PixelAspect>
        <md:WidthPixels>3840</md:WidthPixels>
        <md:HeightPixels>2160</md:HeightPixels>
        <md:ActiveWidthPixels>3840</md:ActiveWidthPixels>
        <md:ActiveHeightPixels>1608</md:ActiveHeightPixels>
      </md:Picture>
      <md:Language>en</md:Language>
    </md:Video>
  </md:TrackMetadata>

```

```

<manifest:ContainerReference>
  <manifest:ContainerLocation>
    resources/AVENGERSINFINI_TH-HDR_META-DOVI-LP_2160P23_239_ENG-ENG_dPlus.xml
  </manifest:ContainerLocation>
  <manifest:Hash method="MD5">8b096282aebbde8c31226e7f0298ab39</manifest:Hash>
</manifest:ContainerReference>
</manifest:Ancillary>

```

MMC 1.9: UHD Delivery Scenario 3 Ancillary Track Example

```

<manifest:Ancillary
  AncillaryTrackID="md:ancillarytrackid:eidr-x:CC63-4415-25F0-5BB0-2406-B:feature.primary.hdr1
  0.en.ancillary">
  <md:Type>enhancement</md:Type>
  <md:SubType>hdr10</md:SubType>
  <md:BaseTrackID>
    md:vidtrackid:eidr-x:CC63-4415-25F0-5BB0-2406-B:feature.primary.hdr10.en.vid
  </md:BaseTrackID>
  <md:TrackMetadata>
    <md:Video>
      <md:Description>HDR</md:Description>
      <md:Type>primary</md:Type>
      <md:SubType>default</md:SubType>
      <md:Encoding>
        <md:Codec>PRORESXQ</md:Codec>
      </md:Encoding>
      <md:Picture>
        <md:AspectRatio>16:9</md:AspectRatio>
        <md:PixelAspect>square</md:PixelAspect>
        <md:WidthPixels>3840</md:WidthPixels>
        <md:HeightPixels>2160</md:HeightPixels>
        <md:ActiveWidthPixels>3840</md:ActiveWidthPixels>
        <md:ActiveHeightPixels>1601</md:ActiveHeightPixels>
        <md:MasteredColorVolume>
          <md:PrimaryRChromaticity>
            <md:ChromaticityCIEx>0.680</md:ChromaticityCIEx>
            <md:ChromaticityCIEy>0.320</md:ChromaticityCIEy>
          </md:PrimaryRChromaticity>
          <md:PrimaryGChromaticity>
            <md:ChromaticityCIEx>0.265</md:ChromaticityCIEx>
            <md:ChromaticityCIEy>0.690</md:ChromaticityCIEy>
          </md:PrimaryGChromaticity>
          <md:PrimaryBChromaticity>
            <md:ChromaticityCIEx>0.150</md:ChromaticityCIEx>
            <md:ChromaticityCIEy>0.060</md:ChromaticityCIEy>
          </md:PrimaryBChromaticity>
          <md:WhitePointChromaticity>
            <md:ChromaticityCIEx>0.3127</md:ChromaticityCIEx>
            <md:ChromaticityCIEy>0.3290</md:ChromaticityCIEy>

```

```

        </md:WhitePointChromaticity>
        <md:LuminanceMin>0.005</md:LuminanceMin>
        <md:LuminanceMax>1000</md:LuminanceMax>
    </md:MasteredColorVolume>
    <md:ColorEncoding>
        <md:Primaries>BT2020</md:Primaries>
        <md:TransferFunction>ST2084</md:TransferFunction>
        <md:ColorDifferencing>BT2020</md:ColorDifferencing>
    </md:ColorEncoding>
    <md:LightLevel>
        <md:ContentMax interpretation="MaxCLL">0</md:ContentMax>
        <md:FrameAverageMax interpretation="MaxFALL">0</md:FrameAverageMax>
    </md:LightLevel>
</md:Picture>
</md:Video>
</md:TrackMetadata>
<manifest:ContainerReference>
    <manifest:ContainerLocation>
        resources/HDR10_DSS-DSO-FMS_20190612.xml
    </manifest:ContainerLocation>
    <manifest:Hash method="MD5">070f48119d18d1e9b6dcab1cfd7584b</manifest:Hash>
</manifest:ContainerReference>
</manifest:Ancillary>

```

MMC 1.9: UHD Delivery Scenario 1 & 2 Dub Card Ancillary Track Example

```

<manifest:Ancillary
AncillaryTrackID="md:ancillarytrackid:eidr-x:dfeb-c52b-e83e-60de-3e9c-f:d2c.avengers.ancilla
ry.fr-fr.dovi">
    <md:Type>enhancement</md:Type>
    <md:SubType>dolbyvision</md:SubType>
    <md:BaseTrackID>
        md:vidtrackid:eidr-x:DFEB-C52B-E83E-60DE-3E9C-F:Avengers.dubcard.SDR.fr-FR
    </md:BaseTrackID>
    <md:TrackMetadata>
        <md:Video>
            <md:Description>SDR</md:Description>
            <md:Type>primary</md:Type>
            <md:SubType>default</md:SubType>
            <md:Picture>
                <md:AspectRatio>16:9</md:AspectRatio>
                <md:PixelAspect>square</md:PixelAspect>
                <md:WidthPixels>3840</md:WidthPixels>
                <md:HeightPixels>2160</md:HeightPixels>
                <md:ActiveWidthPixels>3840</md:ActiveWidthPixels>
                <md:ActiveHeightPixels>1608</md:ActiveHeightPixels>
            </md:Picture>
            <md:Language>fr-FR</md:Language>
            <md:CardsetList>

```

```

        <md:Cardset>
            <md:Type>DubbingCredit</md:Type>
            <md:Language>fr-FR</md:Language>
        </md:Cardset>
    </md:CardsetList>
</md:Video>
</md:TrackMetadata>
<manifest:ContainerReference>
    <manifest:ContainerLocation>
        resources/DISNEYPLUS_UHD_dubcard_metadata_DoVi.xml
    </manifest:ContainerLocation>
    <manifest:Hash method="MD5">0dca327af62c59875ec6b9ca199fa0ba</manifest:Hash>
</manifest:ContainerReference>
</manifest:Ancillary>
<manifest:Ancillary
AncillaryTrackID="md:ancillarytrackid:eidr-x:dfeb-c52b-e83e-60de-3e9c-f:d2c.avengersinfini.o
v.dubcardmetadata.ancillary.fr-fr.hdr10">
    <md:Type>enhancement</md:Type>
    <md:SubType>hdr10</md:SubType>
    <md:BaseTrackID>
        md:vidtrackid:eidr-x:DFEB-C52B-E83E-60DE-3E9C-F:AvengersInfinityWar.dubcard.SDR.fr-FR
    </md:BaseTrackID>
</md:TrackMetadata>
    <md:Video>
        <md:Description>SDR</md:Description>
        <md:Type>primary</md:Type>
        <md:SubType>default</md:SubType>
        <md:Picture>
            <md:AspectRatio>16:9</md:AspectRatio>
            <md:PixelAspect>square</md:PixelAspect>
            <md:WidthPixels>3840</md:WidthPixels>
            <md:HeightPixels>2160</md:HeightPixels>
            <md:ActiveWidthPixels>3840</md:ActiveWidthPixels>
            <md:ActiveHeightPixels>1608</md:ActiveHeightPixels>
        </md:Picture>
        <md:Language>fr-FR</md:Language>
        <md:CardsetList>
            <md:Cardset>
                <md:Type>DubbingCredit</md:Type>
                <md:Language>fr-FR</md:Language>
            </md:Cardset>
        </md:CardsetList>
    </md:Video>
</md:TrackMetadata>
<manifest:ContainerReference>
    <manifest:ContainerLocation>
        resources/DISNEYPLUS_UHD_dubcard_metadata_2086_v9.xml
    </manifest:ContainerLocation>
    <manifest:Hash method="MD5">43df4321411ba787357e45655a161b6b</manifest:Hash>
</manifest:ContainerReference>

```

```
</manifest:Ancillary>
```

MMC 1.9: UHD Delivery Scenario 3 Dub Card Ancillary Track Example

```
<manifest:Ancillary
AncillaryTrackID="md:ancillarytrackid:eidr-x:dfeb-c52b-e83e-60de-3e9c-f:d2c.avengersinfini.o
v.dubcardmetadata.ancillary.fr-fr.hdr10">
  <md:Type>enhancement</md:Type>
  <md:SubType>hdr10</md:SubType>
  <md:BaseTrackID>
    md:vidtrackid:eidr-x:DFEB-C52B-E83E-60DE-3E9C-F:AvengersInfinityWar.dubcard.SDR.fr-FR
  </md:BaseTrackID>
  <md:TrackMetadata>
    <md:Video>
      <md:Description>SDR</md:Description>
      <md:Type>primary</md:Type>
      <md:SubType>default</md:SubType>
      <md:Picture>
        <md:AspectRatio>16:9</md:AspectRatio>
        <md:PixelAspect>square</md:PixelAspect>
        <md:WidthPixels>3840</md:WidthPixels>
        <md:HeightPixels>2160</md:HeightPixels>
        <md:ActiveWidthPixels>3840</md:ActiveWidthPixels>
        <md:ActiveHeightPixels>1608</md:ActiveHeightPixels>
      </md:Picture>
      <md:Language>fr-FR</md:Language>
      <md:CardsetList>
        <md:Cardset>
          <md:Type>DubbingCredit</md:Type>
          <md:Language>fr-FR</md:Language>
        </md:Cardset>
      </md:CardsetList>
    </md:Video>
  </md:TrackMetadata>
</manifest:ContainerReference>
  <manifest:ContainerLocation>
    resources/DISNEYPLUS_UHD_dubcard_metadata_2086_v9.xml
  </manifest:ContainerLocation>
  <manifest:Hash method="MD5">43df4321411ba787357e45655a161b6b</manifest:Hash>
</manifest:ContainerReference>
</manifest:Ancillary>
```

6.5.5.2 3D Ancillary

For 3D video components, the Ancillary Track is used to declare the Dolby Vision p20 metadata XML and associate that Ancillary track with the corresponding UHD HDR 3D VideoTrackID's using the 3D BaseTrackID. Both the Left Eye and Right Eye 3D components will share the same Dolby Vision p20 metadata XML. HDR10 is not supported for 3D components today. Due to MovieLabs MMC constraints, in order to associate the shared Dolby Vision p20 ancillary component to both the Left Eye and Right Eye

video components, there must be a unique AncillaryTrackID for each BaseTrackID even though they both will point to the same Dolby Vision p20 metadata XML.

A **manifest:Ancillary** element MUST be provided for each Ancillary asset delivered.

Each **AncillaryTrackID** MUST be unique and follow the [Manifest Package Identifiers](#) requirements.

md:Type MUST always be set to “enhancement”

Example:

```
<md:Type>enhancement</md:Type>
```

md:SubType

Value	Description
dolbyvision	Used when declaring Dolby Vision metadata

- **md:SubType** MUST be included and set to dolbyvision for 3D components

Example:

```
<md:SubType>dolbyvision</md:SubType>
```

- **md:BaseTrackID** MUST reference the VideoTrackID of the corresponding 3D video asset that the Dolby Vision p20 XML will be used with.

Example:

```
<md:BaseTrackID>  
md:vidtrackid:eidr-x:DFEB-C52B-E83E-60DE-3E9C-F:AvengersInfinityWar.dubcard.SDR.es-419  
</md:BaseTrackID>
```

- For 3D components, the Type3D left-only VideoTrackID will be referenced by the **md:BaseTrackID** in one AncillaryTrackID and the Type3D right-only VideoTrackID will be referenced by the **md:BaseTrackID** in a separate AncillaryTrackID.
- The metadata from the VideoTrackID referenced by the **md:BaseTrackID** SHOULD be included within the **md:TrackMetadata** block, including the Type3D metadata for 3D components.
- For 3D, the AncillaryTrackID for the Left and the AncillaryTrackID for the Right Video Components MUST reference a Dolby Vision p20 asset.
- For 3D, the AncillaryTrackID for the Left and the AncillaryTrackID for the Right Video Components MUST reference the exact same filename in the Container Location.
- For 3D, the AncillaryTrackID for the Left and the AncillaryTrackID for the Right Video Components MUST have the same MD5 Hash.

6.5.6 Metadata / ContentID

The Artwork and MEC metadata are supplied via a separate delivery methodology to Disney+ and Hotstar. As a result, a reference to the ContentID is all that is required for an AV package.

- A **manifest:Metadata** element MUST be provided within all AV packages
- The **ContentID** will be provided per the [Manifest Package Identifiers](#) requirements and MUST be included within the MMC.
- **manifest:ContainerReference @type** MUST always be set to “common”
- **md:Namespace** MUST always be set to “md”
- **md:Identifier** MUST always match the ContentID exactly.

ContentID Example

```
<manifest:Metadata ContentID="md:cid:org:disney.com:radar:146916">
  <manifest:ContainerReference type="common">
    <manifest:ContainerIdentifier>
      <md:Namespace>md</md:Namespace>
      <md:Identifier>md:cid:org:disney.com:radar:146916</md:Identifier>
    </manifest:ContainerIdentifier>
  </manifest:ContainerReference>
</manifest:Metadata>
```

6.6 Presentation

There must be a minimum of one Presentation in a Disney+ and Hotstar MDDF package. Presentations represent a group of conformed assets that are intended to be played against each other. The Presentation references any Video, Audio, Subtitle, or Ancillary Track IDs from the Inventory. Includes the video, audio, and subtitle assets that are used within the Presentations, Playable Sequences, and Experiences within the MDDF package. Any asset listed in the Inventory must be referenced by one or more Presentations. Any asset referenced within a Presentation, must be present within the Inventory. Any asset referenced in the Inventory must either be included within the Resource folder of the current delivery or an active asset that has previously been delivered to Disney+ and Hotstar in a previously delivered MDDF package with the same ALID. The Inventory is the lowest level of granularity, as it contains all the assets that are included in the entire playback experience.

- Each **PresentationID** MUST be unique and follow the [Manifest Package Identifiers](#) requirements.
- When delivering UHD SDR and HDR, you MUST include the VideoTrackID for both the SDR and HDR assets as well as all corresponding Ancillary Tracks within the Primary Presentation.
 - See the Primary Presentation UHD HDR Example below.
- UHD SDR Dub Card Presentations will contain only the SDR VideoTrackID, but will include all corresponding AncillaryTrackIDs.
 - See the Dub Card Presentation UHD SDR example below.
- When delivering multiple aspect ratios for the same package, you MUST include the VideoTrackID for both aspect ratio assets within the Presentation.
 - See the Primary Presentation Multi-Aspect Ratio Example below.

- See the Dub Card Presentation Multi-Aspect Ratio Example below.
- Marker Metadata is injected into the Primary Presentation of the corresponding package using the ALID.
 - See the [Content Marker section](#) for more details.
- Both of the primary 3D VideoTrackIDs MUST be referenced in the same PresentationID as the 2D video components.
- When delivering 3D UHD HDR, you MUST include the corresponding AncillaryTrackIDs within the Primary Presentation.
 - Although both the Left and Right Eye AncillaryTrackIDs reference the same file in the inventory, both must be declared in the Primary Presentation

Example: Primary Presentation

```
<manifest:Presentation
PresentationID="md:presentationid:eidr-x:CA42-8705-7560-C6FE-2C9B-8:SeaofPlasticFeature.Feature">
  <manifest:TrackMetadata>
    <manifest:TrackSelectionNumber>0</manifest:TrackSelectionNumber>
    <manifest:VideoTrackReference>
      <manifest:VideoTrackID>
md:vidtrackid:eidr-x:CA42-8705-7560-C6FE-2C9B-8:SeaofPlasticFeature.Feature.SDR
      </manifest:VideoTrackID>
    </manifest:VideoTrackReference>
    <manifest:AudioTrackReference>
      <manifest:AudioTrackID>
md:audtrackid:eidr-x:CA42-8705-7560-C6FE-2C9B-8:SeaofPlasticFeature.narration.Feature.en.20
      </manifest:AudioTrackID>
    </manifest:AudioTrackReference>
    <manifest:AudioTrackReference>
      <manifest:AudioTrackID>
md:audtrackid:eidr-x:CA42-8705-7560-C6FE-2C9B-8:SeaofPlasticFeature.primary.Feature.en.20
      </manifest:AudioTrackID>
    </manifest:AudioTrackReference>
    <manifest:AudioTrackReference>
      <manifest:AudioTrackID>
md:audtrackid:eidr-x:CA42-8705-7560-C6FE-2C9B-8:SeaofPlasticFeature.primary.Feature.en.51
      </manifest:AudioTrackID>
    </manifest:AudioTrackReference>
    <manifest:SubtitleTrackReference>
      <manifest:SubtitleTrackID>
md:subtrackid:eidr-x:CA42-8705-7560-C6FE-2C9B-8:SeaofPlasticFeature.forced.Feature.en
      </manifest:SubtitleTrackID>
    </manifest:SubtitleTrackReference>
    <manifest:SubtitleTrackReference>
      <manifest:SubtitleTrackID>
md:subtrackid:eidr-x:CA42-8705-7560-C6FE-2C9B-8:SeaofPlasticFeature.SDH.Feature.en
      </manifest:SubtitleTrackID>
    </manifest:SubtitleTrackReference>
  </manifest:TrackMetadata>
</manifest:Presentation>
```

```

    <manifest:SubtitleTrackReference>
      <manifest:SubtitleTrackID>
md:subtrackid:eidr-x:CA42-8705-7560-C6FE-2C9B-8:SeaofPlasticFeature.SDH.Feature.fr-FR
      </manifest:SubtitleTrackID>
    </manifest:SubtitleTrackReference>
    <manifest:SubtitleTrackReference>
      <manifest:SubtitleTrackID>
md:subtrackid:eidr-x:CA42-8705-7560-C6FE-2C9B-8:SeaofPlasticFeature.normal.Feature.en
      </manifest:SubtitleTrackID>
    </manifest:SubtitleTrackReference>
  </manifest:TrackMetadata>
</manifest:Presentation>

```

Example: Primary Presentation UHD HDR Scenario 1 (Dolby Vision & HDR10 Unconstrained)

```

<manifest:Presentation
PresentationID="md:presentationid:eidr-x:1F4C-8B8A-5A9E-275D-AF23-Y:FINDINGNEMO.feature.n1">
  <manifest:TrackMetadata>
    <manifest:TrackSelectionNumber>0</manifest:TrackSelectionNumber>
    <manifest:VideoTrackReference>
      <manifest:VideoTrackID>
md:vidtrackid:eidr-x:1F4C-8B8A-5A9E-275D-AF23-Y:FINDNEMO.feature.SDR.n1
      </manifest:VideoTrackID>
    </manifest:VideoTrackReference>
    <manifest:VideoTrackReference>
      <manifest:VideoTrackID>
md:vidtrackid:eidr-x:1F4C-8B8A-5A9E-275D-AF23-Y:FINDNEMO.feature.HDR.n1
      </manifest:VideoTrackID>
    </manifest:VideoTrackReference>
    <manifest:AudioTrackReference>
      <manifest:AudioTrackID>
md:audtrackid:eidr-x:1F4C-8B8A-5A9E-275D-AF23-Y:FINDNEMO.primary.feature.n1.atmos
      </manifest:AudioTrackID>
    </manifest:AudioTrackReference>
    <manifest:AudioTrackReference>
      <manifest:AudioTrackID>
md:audtrackid:eidr-x:1F4C-8B8A-5A9E-275D-AF23-Y:FINDNEMO.primary.feature.n1.20
      </manifest:AudioTrackID>
    </manifest:AudioTrackReference>
    <manifest:AudioTrackReference>
      <manifest:AudioTrackID>
md:audtrackid:eidr-x:1F4C-8B8A-5A9E-275D-AF23-Y:FINDNEMO.primary.feature.n1.51
      </manifest:AudioTrackID>
    </manifest:AudioTrackReference>
    <manifest:AudioTrackReference>
      <manifest:AudioTrackID>
md:audtrackid:eidr-x:1F4C-8B8A-5A9E-275D-AF23-Y:FINDNEMO.primary.feature.en.20
      </manifest:AudioTrackID>
    </manifest:AudioTrackReference>
  </manifest:TrackMetadata>
</manifest:Presentation>

```

```

<manifest:AudioTrackReference>
  <manifest:AudioTrackID>
    md:audtrackid:eidr-x:1F4C-8B8A-5A9E-275D-AF23-Y:FINDNEMO.primary.feature.en.51
  </manifest:AudioTrackID>
</manifest:AudioTrackReference>
<manifest:SubtitleTrackReference>
  <manifest:SubtitleTrackID>
    md:subtrackid:eidr-x:1F4C-8B8A-5A9E-275D-AF23-Y:FINDNEMO.forced.feature.nl
  </manifest:SubtitleTrackID>
</manifest:SubtitleTrackReference>
<manifest:SubtitleTrackReference>
  <manifest:SubtitleTrackID>
    md:subtrackid:eidr-x:1F4C-8B8A-5A9E-275D-AF23-Y:FINDNEMO.normal.feature.nl
  </manifest:SubtitleTrackID>
</manifest:SubtitleTrackReference>
<manifest:SubtitleTrackReference>
  <manifest:SubtitleTrackID>
    md:subtrackid:eidr-x:1F4C-8B8A-5A9E-275D-AF23-Y:FINDNEMO.SDH.feature.en
  </manifest:SubtitleTrackID>
</manifest:SubtitleTrackReference>
<manifest:AncillaryTrackReference>
  <manifest:AncillaryTrackID>
    md:ancillarytrackid:eidr-x:1F4C-8B8A-5A9E-275D-AF23-Y:FINDNEMO.feature.nl.hdr10
  </manifest:AncillaryTrackID>
</manifest:AncillaryTrackReference>
<manifest:AncillaryTrackReference>
  <manifest:AncillaryTrackID>
    md:ancillarytrackid:eidr-x:1F4C-8B8A-5A9E-275D-AF23-Y:FINDNEMO.feature.nl.dolbv
  </manifest:AncillaryTrackID>
</manifest:AncillaryTrackReference>
</manifest:TrackMetadata>
</manifest:Presentation>

```

Example: Primary Presentation UHD HDR Scenario 2 (Dolby Vision & HDR10 Constrained)

```

<manifest:Presentation
PresentationID="md:presentationid:eidr-x:DFEB-C52B-E83E-60DE-3E9C-F:AvengersInfinityWar.feature">
  <manifest:TrackMetadata>
    <manifest:TrackSelectionNumber>0</manifest:TrackSelectionNumber>
    <manifest:VideoTrackReference>
      <manifest:VideoTrackID>
        md:vidtrackid:eidr-x:DFEB-C52B-E83E-60DE-3E9C-F:Avengers.primary.HDR-C.en
      </manifest:VideoTrackID>
    </manifest:VideoTrackReference>
    <manifest:VideoTrackReference>
      <manifest:VideoTrackID>
        md:vidtrackid:eidr-x:DFEB-C52B-E83E-60DE-3E9C-F:Avengers.feature.SDR.en
      </manifest:VideoTrackID>
    </manifest:VideoTrackReference>
  </manifest:TrackMetadata>
</manifest:Presentation>

```

```

</manifest:VideoTrackReference>
<manifest:VideoTrackReference>
  <manifest:VideoTrackID>
    md:vidtrackid:eidr-x:DFEB-C52B-E83E-60DE-3E9C-F:Avengers.primary.HDR.en
  </manifest:VideoTrackID>
</manifest:VideoTrackReference>
<manifest:AudioTrackReference>
  <manifest:AudioTrackID>
    md:audtrackid:eidr-x:DFEB-C52B-E83E-60DE-3E9C-F:Avengers.narration.feature.en.ad-20
  </manifest:AudioTrackID>
</manifest:AudioTrackReference>
<manifest:AudioTrackReference>
  <manifest:AudioTrackID>
    md:audtrackid:eidr-x:DFEB-C52B-E83E-60DE-3E9C-F:Avengers.primary.feature.en.20
  </manifest:AudioTrackID>
</manifest:AudioTrackReference>
<manifest:AudioTrackReference>
  <manifest:AudioTrackID>
    md:audtrackid:eidr-x:DFEB-C52B-E83E-60DE-3E9C-F:Avengers.primary.feature.en.51
  </manifest:AudioTrackID>
</manifest:AudioTrackReference>
<manifest:AudioTrackReference>
  <manifest:AudioTrackID>
    md:audtrackid:eidr-x:DFEB-C52B-E83E-60DE-3E9C-F:Avengers.primary.feature.en.Atmos
  </manifest:AudioTrackID>
</manifest:AudioTrackReference>
<manifest:AudioTrackReference>
  <manifest:AudioTrackID>
    md:audtrackid:eidr-x:DFEB-C52B-E83E-60DE-3E9C-F:Avengers.primary.feature.fr-FR.20
  </manifest:AudioTrackID>
</manifest:AudioTrackReference>
<manifest:AudioTrackReference>
  <manifest:AudioTrackID>
    md:audtrackid:eidr-x:DFEB-C52B-E83E-60DE-3E9C-F:Avengers.primary.feature.fr-FR.51
  </manifest:AudioTrackID>
</manifest:AudioTrackReference>
<manifest:SubtitleTrackReference>
  <manifest:SubtitleTrackID>
    md:subtrackid:eidr-x:DFEB-C52B-E83E-60DE-3E9C-F:Avengers.normal.feature.nl
  </manifest:SubtitleTrackID>
</manifest:SubtitleTrackReference>
<manifest:SubtitleTrackReference>
  <manifest:SubtitleTrackID>
    md:subtrackid:eidr-x:DFEB-C52B-E83E-60DE-3E9C-F:Avengers.forced.feature.fr-FR
  </manifest:SubtitleTrackID>
</manifest:SubtitleTrackReference>
<manifest:SubtitleTrackReference>
  <manifest:SubtitleTrackID>
    md:subtrackid:eidr-x:DFEB-C52B-E83E-60DE-3E9C-F:Avengers.normal.feature.fr-FR
  </manifest:SubtitleTrackID>

```

```

</manifest:SubtitleTrackReference>
<manifest:SubtitleTrackReference>
  <manifest:SubtitleTrackID>
    md:subtrackid:eidr-x:DFEB-C52B-E83E-60DE-3E9C-F:Avengers.SDH.feature.en
  </manifest:SubtitleTrackID>
</manifest:SubtitleTrackReference>
<manifest:AncillaryTrackReference>
  <manifest:AncillaryTrackID>
    md:ancillarytrackid:eidr-x:dfeb-c52b-e83e-60de-3e9c-f:Avengers.ancillary.en.hdr10
  </manifest:AncillaryTrackID>
</manifest:AncillaryTrackReference>
<manifest:AncillaryTrackReference>
  <manifest:AncillaryTrackID>
    md:ancillarytrackid:eidr-x:dfeb-c52b-e83e-60de-3e9c-f:Avengers.ancillary.en.dovi
  </manifest:AncillaryTrackID>
</manifest:AncillaryTrackReference>
</manifest:TrackMetadata>
</manifest:Presentation>

```

Example: Primary Presentation UHD HDR Scenario 3 (HDR10)

```

<manifest:Presentation
PresentationID="md:presentationid:eidr-x:8984-0FA0-8D6D-AA7B-12C7-E:feature.HDR">
  <manifest:TrackMetadata>
    <manifest:TrackSelectionNumber>0</manifest:TrackSelectionNumber>
    <manifest:VideoTrackReference>
      <manifest:VideoTrackID>
md:vidtrackid:eidr-x:8984-0FA0-8D6D-AA7B-12C7-E:DIS_HAMILTON_FEATURE_HDR_FEATURE_NAR_EN.mov
      </manifest:VideoTrackID>
    </manifest:VideoTrackReference>
    <manifest:VideoTrackReference>
      <manifest:VideoTrackID>
md:vidtrackid:eidr-x:8984-0FA0-8D6D-AA7B-12C7-E:DIS_HAMILTON_FEATURE_SDR_FEATURE_NAR_EN.mov
      </manifest:VideoTrackID>
    </manifest:VideoTrackReference>
    <manifest:AudioTrackReference>
      <manifest:AudioTrackID>
md:audtrackid:eidr-x:8984-0FA0-8D6D-AA7B-12C7-E:DIS_HAMILTON_FEATURE_AUDIO_EN_51.mov
      </manifest:AudioTrackID>
    </manifest:AudioTrackReference>
    <manifest:AudioTrackReference>
      <manifest:AudioTrackID>
md:audtrackid:eidr-x:8984-0FA0-8D6D-AA7B-12C7-E:DIS_HAMILTON_FEATURE_AUDIO_EN_20_Stereo.mov
      </manifest:AudioTrackID>
    </manifest:AudioTrackReference>
    <manifest:AudioTrackReference>
      <manifest:AudioTrackID>
md:audtrackid:eidr-x:8984-0FA0-8D6D-AA7B-12C7-E:DIS_HAMILTON_FEATURE_AUDIO_ATMOS_EN.ec3
      </manifest:AudioTrackID>

```

```

    </manifest:AudioTrackReference>
    <manifest:AncillaryTrackReference>
      <manifest:AncillaryTrackID>
md:ancillarytrackid:eidr-x:8984-0FA0-8D6D-AA7B-12C7-E:DIS_HAMILTON_FEATURE_HDR10.xml
      </manifest:AncillaryTrackID>
    </manifest:AncillaryTrackReference>
    <manifest:AncillaryTrackReference>
      <manifest:AncillaryTrackID>
md:ancillarytrackid:eidr-x:8984-0FA0-8D6D-AA7B-12C7-E:DIS_HAMILTON_FEATURE_DOVI.xml
      </manifest:AncillaryTrackID>
    </manifest:AncillaryTrackReference>
  </manifest:TrackMetadata>
</manifest:Presentation>

```

Example: Primary Presentation Multi-Aspect Ratio

```

<manifest:Presentation
PresentationID="md:presentationid:eidr-x:344E-BE97-4AB6-DE90-9A77-Y:episode.en">
  <manifest:TrackMetadata>
    <manifest:TrackSelectionNumber>0</manifest:TrackSelectionNumber>
    <manifest:VideoTrackReference>
      <manifest:VideoTrackID>
md:vidtrackid:eidr-x:344E-BE97-4AB6-DE90-9A77-Y:episode.primary.133.en.vid
      </manifest:VideoTrackID>
    </manifest:VideoTrackReference>
    <manifest:VideoTrackReference>
      <manifest:VideoTrackID>
md:vidtrackid:eidr-x:344E-BE97-4AB6-DE90-9A77-Y:episode.primary.en.vid
      </manifest:VideoTrackID>
    </manifest:VideoTrackReference>
    <manifest:AudioTrackReference>
      <manifest:AudioTrackID>
md:audtrackid:eidr-x:344E-BE97-4AB6-DE90-9A77-Y:episode.primary.st.en.aud
      </manifest:AudioTrackID>
    </manifest:AudioTrackReference>
    <manifest:AudioTrackReference>
      <manifest:AudioTrackID>
md:audtrackid:eidr-x:344E-BE97-4AB6-DE90-9A77-Y:episode.primary.51sur.en.aud
      </manifest:AudioTrackID>
    </manifest:AudioTrackReference>
    <manifest:AudioTrackReference>
      <manifest:AudioTrackID>
md:audtrackid:eidr-x:344E-BE97-4AB6-DE90-9A77-Y:episode.primary.st.fr-ca.aud
      </manifest:AudioTrackID>
    </manifest:AudioTrackReference>
    <manifest:SubtitleTrackReference>
      <manifest:SubtitleTrackID>
md:subtrackid:eidr-x:344E-BE97-4AB6-DE90-9A77-Y:episode.sdh.en.sub
      </manifest:SubtitleTrackID>

```

```

</manifest:SubtitleTrackReference>
<manifest:SubtitleTrackReference>
  <manifest:SubtitleTrackID>
    md:subtrackid:eidr-x:344E-BE97-4AB6-DE90-9A77-Y:episode.normal.nl.sub
  </manifest:SubtitleTrackID>
</manifest:SubtitleTrackReference>
<manifest:SubtitleTrackReference>
  <manifest:SubtitleTrackID>
    md:subtrackid:eidr-x:344E-BE97-4AB6-DE90-9A77-Y:episode.normal.fr-ca.sub
  </manifest:SubtitleTrackID>
</manifest:SubtitleTrackReference>
<manifest:SubtitleTrackReference>
  <manifest:SubtitleTrackID>
    md:subtrackid:eidr-x:344E-BE97-4AB6-DE90-9A77-Y:episode.forced.fr-ca.sub
  </manifest:SubtitleTrackID>
</manifest:SubtitleTrackReference>
</manifest:TrackMetadata>
</manifest:Presentation>

```

Example: Dub Card Presentation

```

<manifest:Presentation
PresentationID="md:presentationid:eidr-x:A47C-62E5-7F6F-4304-096F-0:DISNEYSDUCKTALES.dubcard
.nl">
  <manifest:TrackMetadata>
    <manifest:TrackSelectionNumber>0</manifest:TrackSelectionNumber>
    <manifest:VideoTrackReference>
      <manifest:VideoTrackID>
        md:vidtrackid:eidr-x:A47C-62E5-7F6F-4304-096F-0:DISNEYSDUCKTALES.dubcard.SDR.nl
      </manifest:VideoTrackID>
    </manifest:VideoTrackReference>
  </manifest:TrackMetadata>
</manifest:Presentation>

```

Example: Dub Card Presentation UHD HDR Scenarios 1 & 2 (Dolby Vision & HDR10)

```

<manifest:Presentation
PresentationID="md:presentationid:eidr-x:1F4C-8B8A-5A9E-275D-AF23-Y:FINDNEMO.all.dubcard.pre
sentation.nl">
  <manifest:TrackMetadata>
    <manifest:TrackSelectionNumber>0</manifest:TrackSelectionNumber>
    <manifest:VideoTrackReference>
      <manifest:VideoTrackID>
        md:vidtrackid:eidr-x:1F4C-8B8A-5A9E-275D-AF23-Y:FINNEMO.dubcard.Default.nl
      </manifest:VideoTrackID>
    </manifest:VideoTrackReference>
    <manifest:AncillaryTrackReference>
      <manifest:AncillaryTrackID>
        md:ancillarytrackid:eidr-x:1F4C-8B8A-5A9E-275D-AF23-Y:FINDNEMO.dubcard.nl.hdr10
      </manifest:AncillaryTrackID>
    </manifest:AncillaryTrackReference>
  </manifest:TrackMetadata>
</manifest:Presentation>

```

```

        </manifest:AncillaryTrackID>
    </manifest:AncillaryTrackReference>
</manifest:AncillaryTrackReference>
    <manifest:AncillaryTrackID>

md:ancillarytrackid:eidr-x:1F4C-8B8A-5A9E-275D-AF23-Y:FINDNEMO.dubcard.nl.dolbyvision
    </manifest:AncillaryTrackID>
    </manifest:AncillaryTrackReference>
</manifest:TrackMetadata>
</manifest:Presentation>

```

Example: Dub Card Presentation UHD HDR Scenario 3 (HDR10)

```

<manifest:Presentation
PresentationID="md:presentationid:eidr-x:CC63-4415-25F0-5BB0-2406-B:dubcard.fr-fr">
    <manifest:TrackMetadata>
        <manifest:TrackSelectionNumber>0</manifest:TrackSelectionNumber>
        <manifest:VideoTrackReference>
            <manifest:VideoTrackID>
                md:vidtrackid:eidr-x:CC63-4415-25F0-5BB0-2406-B:feature.vid.fr-fr.dubcard
            </manifest:VideoTrackID>
        </manifest:VideoTrackReference>
        <manifest:AncillaryTrackReference>
            <manifest:AncillaryTrackID>

md:ancillarytrackid:eidr-x:CC63-4415-25F0-5BB0-2406-B:feature.ancillary.fr-fr.dubcard
            </manifest:AncillaryTrackID>
        </manifest:AncillaryTrackReference>
    </manifest:TrackMetadata>
</manifest:Presentation>

```

Example: Dub Card Presentation Multi-Aspect Ratio

```

<manifest:Presentation
PresentationID="md:presentationid:eidr-x:344E-BE97-4AB6-DE90-9A77-Y:dubcard.es-es">
    <manifest:TrackMetadata>
        <manifest:TrackSelectionNumber>0</manifest:TrackSelectionNumber>
        <manifest:VideoTrackReference>
            <manifest:VideoTrackID>
                md:vidtrackid:eidr-x:344E-BE97-4AB6-DE90-9A77-Y:feature.vid.133.es-es.dubcard
            </manifest:VideoTrackID>
        </manifest:VideoTrackReference>
        <manifest:VideoTrackReference>
            <manifest:VideoTrackID>
                md:vidtrackid:eidr-x:344E-BE97-4AB6-DE90-9A77-Y:feature.vid.es-es.dubcard
            </manifest:VideoTrackID>
        </manifest:VideoTrackReference>
    </manifest:TrackMetadata>
</manifest:Presentation>

```

6.7 Playable Sequence

Playable sequences contain presentation elements and mark the order in which they should playback in the video player. An example would be a feature and a dub card. All playable sequences shall be referenced within a presentation for structural consistency.

- The **PlayableSequenceID** MUST be unique and follow the [Manifest Package Identifiers](#) requirements.
- For AV packages ***submitted by vendors***, there is ALWAYS only **ONE** Playable Sequence per MMC. SIP will add additional Playable Sequences based on Branding Rights and Bumper requirements within the delivery pipeline to Hotstar and Disney+.
- The Playable Sequences MUST reference ALL Presentations within the MMC.
- The Primary Presentation ALWAYS uses a Sequence order of 0.
- All Dub Card Presentation ALWAYS uses a Sequence order of 1.
 - Disney+ uses the language code to present the dub cards to the subscriber in alphabetical order.

Example: Playable Sequence Without Dub Cards

```
<manifest:PlayableSequences>
  <manifest:PlayableSequence
    PlayableSequenceID="md:playablesequenceid:eidr-x:E3CC-72AE-752F-8633-61B8-B:clip">
    <manifest:Clip sequence="0">
      <manifest:PresentationID>
        md:presentationid:eidr-x:E3CC-72AE-752F-8633-61B8-B:clip.en
      </manifest:PresentationID>
    </manifest:Clip>
  </manifest:PlayableSequence>
</manifest:PlayableSequences>
```

Example: Playable Sequence With Dub Cards

```
<manifest:PlayableSequences>
  <manifest:PlayableSequence
    PlayableSequenceID="md:playablesequenceid:eidr-x:344E-BE97-4AB6-DE90-9A77-Y:episode">
    <manifest:Clip sequence="0">
      <manifest:PresentationID>
        md:presentationid:eidr-x:344E-BE97-4AB6-DE90-9A77-Y:episode.en
      </manifest:PresentationID>
    </manifest:Clip>
    <manifest:Clip sequence="1" audioLanguage="fr-CA">
      <manifest:PresentationID>
        md:presentationid:eidr-x:344E-BE97-4AB6-DE90-9A77-Y:dc.fr-ca
      </manifest:PresentationID>
    </manifest:Clip>
    <manifest:Clip sequence="1" audioLanguage="fr-FR">
      <manifest:PresentationID>
```

```

        md:presentationid:eidr-x:344E-BE97-4AB6-DE90-9A77-Y:dc.fr-fr
      </manifest:PresentationID>
    </manifest:Clip>
    <manifest:Clip sequence="1" audioLanguage="es-419">
      <manifest:PresentationID>
        md:presentationid:eidr-x:344E-BE97-4AB6-DE90-9A77-Y:dc.es-419
      </manifest:PresentationID>
    </manifest:Clip>
    <manifest:Clip sequence="1" audioLanguage="it">
      <manifest:PresentationID>
        md:presentationid:eidr-x:344E-BE97-4AB6-DE90-9A77-Y:dc.it
      </manifest:PresentationID>
    </manifest:Clip>
    <manifest:Clip sequence="1" audioLanguage="de">
      <manifest:PresentationID>
        md:presentationid:eidr-x:344E-BE97-4AB6-DE90-9A77-Y:dc.de
      </manifest:PresentationID>
    </manifest:Clip>
    <manifest:Clip sequence="1" audioLanguage="es-ES">
      <manifest:PresentationID>
        md:presentationid:eidr-x:344E-BE97-4AB6-DE90-9A77-Y:dc.es-es
      </manifest:PresentationID>
    </manifest:Clip>
  </manifest:PlayableSequence>
</manifest:PlayableSequences>

```

6.8 Experience

Experiences encompass a collection of playable sequence elements. It is the highest-level element in the MMC.

- The **ExperienceID** MUST be unique and follow the [Manifest Package Identifiers](#) requirements.
- The Experience MUST reference the **manifest:ContentID** declared in the Inventory of the MMC
 - See [Inventory](#) section for further details regarding ContentID requirements
- The **manifest:Audiovisual ContentID** must match the **manifest:ContentID**
- The **manifest:Type** and **manifest:SubType** must be within the Controlled Vocabulary and match the appropriate Content Type delivery requirements. (See [Appendix A](#))
- The Experience MUST reference the **manifest:PlayableSequenceID**

```

<manifest:Experiences>
  <manifest:Experience
    ExperienceID="md:experience:eidr-x:344E-BE97-4AB6-DE90-9A77-Y:episode" version="1.0">
    <manifest:ContentID>md:cid:org:disney.com:radar:197204</manifest:ContentID>
    <manifest:Audiovisual ContentID="md:cid:org:disney.com:radar:197204">
      <manifest:Type>Main</manifest:Type>
      <manifest:SubType>Episode</manifest:SubType>
    </manifest:Audiovisual ContentID>
  </manifest:Experience>
</manifest:Experiences>

```

```

    <manifest:PlayableSequenceID>
      md:playablesequenceid:eidr-x:344E-BE97-4AB6-DE90-9A77-Y:episode
    </manifest:PlayableSequenceID>
  </manifest:Audiovisual>
</manifest:Experience>
</manifest:Experiences>

```

6.9 ALIDExperienceMap

ALIDExperienceMap maps ALIDs from Avails, which contain the rights information for a given title, to the MMC, which contains the asset metadata in the form of experience elements.

- The ALIDExperienceMap **manifest:ALID** MUST reference a valid ALID
 - See the [Manifest Package Identifiers](#) section for more details regarding the ALID
- The ALIDExperienceMap MUST reference the **manifest:ExperienceID**
- The ALID for the 2D and 3D components is the same and MUST use the ALID for the 2D content.

```

<manifest:ALIDExperienceMaps>
  <manifest:ALIDExperienceMap>
    <manifest:ALID>md:alid:eidr-x:344E-BE97-4AB6-DE90-9A77-Y</manifest:ALID>
    <manifest:ExperienceID condition="Acquired">
      md:experience:eidr-x:344E-BE97-4AB6-DE90-9A77-Y:episode
    </manifest:ExperienceID>
  </manifest:ALIDExperienceMap>
</manifest:ALIDExperienceMaps>

```

7 Delivery Profiles

7.1 Base Package - Initial Delivery

The base package includes all media assets described in the package manifest. One video track and one 2.0 audio track of the same language is required.

- In order to service 3D components within an initial base package, the package must also include the corresponding 2D component(s) and a 2.0 audio component with the same language as the video components.

7.2 Variable Package - Supplemental Delivery

When delivering additional or replacement components to a title package that was previously delivered, there are specific validations to be aware of. Existing assets and identifiers must be maintained in the manifest MMC xml.

- When delivering 3D components to a package that was previously delivered, you must service both the Left Eye and Right Eye video components defined below.

All IDs must only include the following allowed characters:

ABCDEFGHIJKLMNOPQRSTUVWXYZabcdefghijklmnopqrstuvwxyz0123456789-._~:~?#[]@!\$'%*+,;=%()

Track ID

- Existing Track IDs must remain the same, even if naming isn't quite right to the content
- If a media asset is being replaced, its Track ID will need to stay the same
- Best practice is to keep Track ID names generic, as per spec examples
- You may remove an asset from Inventory by doing an MMC Metadata Only update to an existing package (ALID). You cannot both add and update any other Inventory items when performing an asset remove. The Inventory Track ID must also be removed from the Presentation that references it.
- If during an asset addition or other metadata update, Madmartigan cannot find an existing Track ID, it will trigger a "Remove" event, which is not a supported delivery scenario at this time, and flags the error message, "MEDIA_ASSET_REMOVE"
- See Asset Remove & Metadata Update in the Appendix for more details.
- If adding components, new Track ID's can be generated

Presentation ID

- Presentation IDs should be maintained
- Changing the Presentation ID triggers a "Remove" and "Missing" event, which is not supported.
- You may remove a Dub Card Presentation by doing an MMC Metadata Only update to an existing package (ALID). You cannot both add and update any other Inventory items when performing a

Dub Card Presentation Remove. All Inventory items previously referenced in the removed Dub Card Presentation must also be removed from the package that performs the remove.

- If during an asset addition or other metadata update, Madmartigan cannot find an existing Presentation ID, it will trigger a “Remove” event, which is not a supported delivery scenario at this time, and flags the error message, “PRESENTATION_REMOVE”
- See Asset Remove & Metadata Update in the Appendix for more details.
- If adding a Dub Card Presentation, new Presentation ID’s can be generated.

Maintain Inventory Items

If the previously delivered component should remain unchanged:

- Do not include the associated media file
- File name should remain the same
- Checksum MD5 must remain the same
- When doing an MMC Metadata Only update, you may update certain attributes for an existing asset without having to redeliver the file.
- In addition, you may use the [SIP Component UI](#) to update the metadata in an existing package as well (See SIP Component UI in Appendix for more details)
- When adding assets or removing assets, the attributes for all existing Track IDs must match, for example:
 - “Type” (Audio description = “narration”)
 - “CardSet” - DubbingCredit
 - “language”
- If there are changes in the MMC when adding or removing assets, this may trigger a “Replace” event for this inventory track. The system will look for an associated file in the resources folder. If the corresponding file is not provided within the resources folder of the supplemental package, the following error message will be triggered: “Some files found in manifest are missing from delivered package”
 - See [Appendix C](#) for a full list of MMC metadata updates that will result in a “Replace” event.
- See Asset Remove & Metadata Update in the Appendix for more details.

7.3 Upgrading HD Package to UHD Package

Guidelines for when an existing package for the EIDR L2 version has been previously uploaded to Disney+ and/or Hotstar with HD Rec.709 video, and the order for a variable update is to upgrade the video to UHD-HDR.

Scenario 1 (UHD Dolby Vision + UHD SDR)

- Main Program is replaced with UHD
 - Maintain the same Track ID as the original HD video track
 - HD 1080P Video file is replaced with a UHD-SDR 2160P Video file
 - Do not include both an HD and UHD SDR video
 - UHD-HDR 2160P Video track is added as a new asset

- Dolby Vision and ST.2086 XML are added as new assets related to the UHD-HDR track
- Presentation is updated to include the UHD video track
- Dub cards must also be replaced with UHD
 - HD sized dub cards are not allowed with a UHD package
 - Maintain the same Track ID as the original HD dub card video tracks
 - All Dub Card videos must be upgraded to UHD-SDR 2160P Video
 - Do not include any UHD-HDR dub card videos, only one dub card video per language
 - Video Description is still “SDR” though it will get upconverted at the encode stage
 - Generic Dolby Vision and ST.2086 XML are added to all dub card videos
 - Metadata file re-use is allowed, the MMC points to the same file for each dub card

Scenario 2 (UHD Dolby Vision + UHD HDR Constrained + UHD SDR)

- Only applies when content is graded above 1000 Nits and has both an Unconstrained and a Constrained HDR master.
- Follow the Scenario 1 guidelines, however also include:
 - UHD-HDR-C Constrained Video as a new track
 - No associated Dolby Vision xml
 - Include associated ST2086 HDR xml
- Do not include any additional dub cards - follow guidelines for Scenario 1

Scenario 3 (UHD HDR Constrained + UHD SDR)

- Only applies when Dolby Vision track is not available and HDR master is 1000 nits or less
- Follow the Scenario 1 guidelines, except:
 - Do not include Dolby Vision metadata for Main program
 - Do not include Dolby Vision metadata for Dub Cards
- Existing 3D HD SDR components can be replaced (upgraded) with 3D UHD HDR components. This is accomplished by maintaining the existing VideoTrackIDs in the Inventory of the MMC while updating the metadata values and file referenced for each 3D component and adding the Ancillary Tracks for the Dolby Vision p20 metadata asset.
 - In addition to the Inventory updates, the existing 3D VideoTrackIDs will remain present in the Primary Presentation, however the new AncillaryTrackIDs that reference each 3D VideoTrackID as a BaseTrackID must be added to the Primary Presentation.

7.4 Package Portability Guidelines

This is a list of guidelines to be performed when a package is being updated that has previously been delivered to Disney+ and/or Hotstar by a different packager. The same ingest rules as a “Variable Package” apply.

Download MMC from SIP Control or using the SIP MMC Retrieval API

- Click on the ALID of a previously delivered package and select download.
- Check for a “Complete” ingest against the ALID using the SIP MMC Retrieval API.

- Additional details about the MMC Retrieval API can be found in the Appendix.
- Confirm all previously delivered components in the MMC to avoid unexpected replacements

Conform New Components to Existing Video

- Download a video proxy from SIP.
- Conform all new components to be added to sync and match the length of the existing video proxy
- If a video proxy is not available to match sync & length, but a base package has been delivered, use the [TWDC Support Tool](#) to report the missing Proxy. (See [Support Appendix](#) for more details)
- Audio assets must match the exact length of the video file
- Dolby Atmos EC3 “Length” header metadata has to be correct, not based on time code
- Subtitles must not include any event (in or out point) past the last frame

Update to Current MMC Specs

- Ensure the correct WorkFlow / Type / SubType values are used
- Always update the “Service Provider” to the name of the current packaging service.
- Always update the “Update Num” timestamp with every delivery revision
- Double-check that all Track ID’s and Presentation ID’s match the previously ingested MMC

Additional Checks

- **Active Pixels:** Should conform to standard values list, based on Aspect Ratio, and match throughout the MMC to all video elements of the same subType.
- **UpdateNum:** This Unix timestamp must be more recent than previously ingested MMC

7.5 Forensic Watermarking Requirements

- In accordance with the Studio and Walt Disney Television Content Security standards, all Disney+ and Hulu Original video essences are to be embedded with a NexGuard G2 invisible watermark prior to delivery to Disney+ and Hotstar.
- Additionally, any titles from the Studio theatrical slate that have not yet passed the global Digital or Blu-ray release date should receive a NexGuard G2 invisible mark specific to Disney+ and Hotstar.
- This requirement applies to anything that is in the supply chain for delivery up to 4 weeks after the global release date. To obtain the relevant documentation and procedures for applying such marks, please contact wds-cis@disney.com.

	Movie	Episode	Short	Trailer	Bonus	Next On	Season Recap
Forensic Watermark (HD & UHD)	✓	✓	✓	✓	✓ if over 30 minutes	✓	✗

7.6 Episode Recap

Depending on the show format, certain programs may contain segments at the start of program that recap the previous show's content. These recaps are signaled by temporal markers in the Marker application.

- The recap portion of a Primary video shall be marked with FFER (First Frame Episode Recap) and LFER (Last Frame Episode Recap) temporal markers within the Marker application for the corresponding ALID.
- Only one recap start/end pair is permitted and is enforced within the Marker application.

7.8 Localized Package When Audio Has No Dialog

When the original audio track does not contain any dialog to replace in dubbing, but forced narrative subtitles are required for translation of on-screen text, follow this guideline.

- The OV Audio file is duplicated for each language as separate files
- Create different file names for each duplicate (file reuse is not supported for audio tracks)
- 2.0 or 5.1 channel configuration, length, and all other technical aspects must be correct
- The MMC inventory will list each language audio track with the unique file name
- At least one 2.0 audio asset must be delivered with the same language code as the primary video asset.

Please note: Forced narratives are only required when a language dub is present, or in the cases where the original audio is substituted as if it is a language dub. When no language dub is present, all forced events should be included in the Full subtitles track.

7.9 Series & Season Packages

These are only used for Artwork and Metadata packaging, and shall not be provided. These deliveries are out of scope for this document.

7.10 Manifest Update

The [SIP Control Component UI](#) can be used to perform metadata updates to existing packages. This is the preferred method for doing Metadata only updates, as the Component UI has built in validation leveraging the Madmartigan Pre-Flight validation service.

You can also update the metadata for an existing package for the following fields by providing an MMC only delivery via MediaMonorail. When doing a metadata only update, you cannot add any new components or replace any existing components.

Below are some of the reasons you may need to perform an MMC-only Manifest Update:

- Change technical metadata values such as Language, Type, SubType, Active Pixels and markers.
- Remove components that should not have been included on the service, such as subtitles, audio tracks and dub cards.

Track and Presentation removals must not include any additional “add” or “replace” events for new components. An asset removal must be the only action performed during the MMC update, and any additional new components must be sent as a traditional supplemental package. Otherwise this will trigger an error message at the time of Disney+ and/or Hotstar ingest validation.

Any change to the key metadata of a media asset, such as file name or checksum will require the redelivery of the media asset as well. See [Appendix C](#) for values that trigger an asset replacement.

8 Systems and Workflows

8.1 System Introduction

Key systems that will be interacted with throughout the delivery process include:

- **MediaMonorail & Single Ingest Pipeline (SIP)** - Transport, validation, and delivery pipeline for all content delivered to Disney+ & Hotstar.
 - **MediaMonorail Templates** for both **Grey** and **Red** content for **Staging** and **Production** will be provided for both Disney+ and Hotstar.
 - You MUST use the DSS MediaMonorail templates for deliveries to Disney+.
 - You MUST use the Hotstar MediaMonorail templates for deliveries to Hotstar.
 - See section [8.3 High Security Title Communication and Delivery](#) for further details regarding Grey and Red content requirements.
- **Disney+ Content Portal** - Disney+'s ingest platform
 - **Disney+ Content Portal** has [Staging](#) and [Production](#) environments available.
 - MediaMonorail Staging templates and SIP Component UI Staging uploads use [Disney+ Content Portal Staging](#).
 - MediaMonorail Production templates and SIP Component UI Production uploads use [Disney+ Content Portal Production](#).
 - The Disney+ Legacy Backstage UI is still available, but will be deprecated by the end of 2026.
 - [DS Backstage QA](#).
 - [DS Backstage Production](#).
- **Hotstar Ingest** – Hotstar does not have an ingest UI.

8.2 MediaMonorail & Single Ingest Pipeline

MediaMonorail and SIP Control Component UI are the only applications available to deliver media content to Disney's Streaming Service via SIP. MediaMonorail is to be used when you are building the MDDF packages within your system, while SIP Control Component UI is a web interface that leverages Aspera Connect in order to upload components and have the MDDF packages built within the Disney SIP application.

Upload capabilities for MediaMonorail are available through both an internet-facing web application, known as MediaMonorail or "MM3", as well as a REST-based API called the MediaMonorail API or "MMAPI".

Upload capabilities for SIP Control Component UI are available through both an internet-facing web application, known as Component UI, as well as a REST-based API called the SIP Component APIs.

8.2.1 Upload with the MediaMonorail API

MediaMonorail API Host Update

API host for MediaMonorail is being updated. Please update your API host to the new value below:

Previous Value	New Value
https://api.go.com/mediamonorail-v3	https://api.v3.mediamonorail.com

Get an authorization token

A valid Auth-Z token is required before making any other calls. To fetch a token, you will need to provide the [client_id](#) (e.g.: "CORP-MEDIA.MONORAIL-STAGE") and [client_secret](#) given to you by your Disney technology partner:

Sample Auth Call

```
curl -X "POST" -v -d  
"grant_type=client_credentials&client_id={client_id}&client_secret={client_secret}&scope=  
RETURN_ALL_CLIENT_SCOPES" https://authorization.go.com/token
```

Sample Auth Response

```
{"access_token": "qHWqWpL6m_V0eeG9sKRpoA", "token_type": "BEARER", "scope": "", "expires_in": "18000"}
```

While this token is valid, you must include it in the header of requests to any MMAPI endpoint. For example: **Sample Use of Access Token in the Header**

```
curl -v --header "Authorization: BEARER qHWqWpL6m_V0eeG9sKRpoA" "https://api.v3.mediamonorail.com/...
```

Provide account information

All endpoints require the [app_guid](#) and [user_id](#) (given to you by your Disney technology partner) in the query string of your call:

```
curl -v --header "Authorization: BEARER {access_token}"  
"https://api.v3.mediamonorail.com/{endpoint}?app_guid={app_guid}&user_id={user_id}&..."
```

Selecting the Destination Platform:

Currently there are two platforms supported by SIP, below table should be used for reference when submitting your SIP package to the appropriate platform. Vendor specific system IDs have been distributed in a one-sheet doc.

Platform	Workflow ID	Destination System ID
Disney+ Prod Grey	117	ReView_<vendor_name>_grey_PROD
Disney+ Prod Red	117	ReView_<vendor_name>_red_PROD
Disney+ Stage Grey	118	ReView_<vendor_name>_grey_QA
Disney+ Stage Red	118	ReView_<vendor_name>_red_QA
Hotstar Prod Grey	135	ReView_Hotstar_grey_PROD
Hotstar Prod Red	135	ReView_Hotstar_red_PROD
Hotstar Staging Grey	136	ReView_Hotstar_grey_QA
Hotstar Staging Red	136	ReView_Hotstar_red_QA

Request a delivery

The following is a sample call to initiate a delivery into the SIP workflow. An explanation of all input parameters, high-lighted in red, follows.

Sample createDelivery Call

POST request (with HEADER) to

https://api.v3.mediamonorail.com/delivery/createDelivery?app_guid={app_guid}

Payload:

```
{
  "user_id": "{user_id}",
  "source": "{source}",
  "destination": "MEDIAMONORAIL",
  "notifications": {
    "list": [
      {
        "mail": "{optional_list_of_email_addresses}"
      }
    ]
  },
  "md_obj": {
    "metadata_object": {
      "fields": [
        {
          "field_id": "destinations",
```

```

    "field_values": [
      {
        "stored": "{destination_system_id}",
        "displayed": "{destination_system_id}"
      }
    ]
  },
  {
    "field_id": "submitted_by",
    "field_values": [
      {
        "stored": "{submitted_by}",
        "displayed": "{submitted_by}"
      }
    ]
  },
  {
    "field_id": "task_type",
    "field_values": [
      {
        "stored": "Ingest",
        "displayed": "INGEST"
      }
    ]
  },
  {
    "field_id": "sip_priority",
    "field_values": [
      {
        "stored": "Normal",
        "displayed": "NORMAL"
      }
    ]
  },
  {
    "field_id": "ignore_missing_resources",
    "field_values": [
      {
        "stored": "{ignore_missing_resources}",
        "displayed": "{ignore_missing_resources}"
      }
    ]
  },
  {
    "field_id": "order_id",
    "field_values": [
      {
        "stored": "{order_id}",
        "displayed": "{order_id}"
      }
    ]
  },
  {
    "field_id": "correlated_id",
    "field_values": [
      {

```

```

        "stored": "{correlated_id}",
        "displayed": "{correlated_id}"
    }
]
},
{
    "field_id": "callback_url",
    "field_values": [
        {
            "stored": "{callback_url}",
            "displayed": "{callback_url}"
        }
    ]
}
]
}
},
"wf_id": {wf_id},
"folders": [
    {
        "filename": "{package_name}",
        "filesize": 0,
        "source_relative_path": "/",
        "destination_relative_path": "."
    }
],
"priority": 2,
"requires_processing": {requires_processing}
}

```

Sample Response

```

{"status":2,"error":
null,"progress":0,"deliveryID":2480677,"transportID":null,"originalDeliveryID":null}

```

8.2.2 Input Parameters

Input Parameters (Delivery specific)

Parameter	Description
app_guid	A static Application identifier that will be supplied to you.
user_id	A static User identifier that will be supplied to you.
source	A System identifier of your “Landing Pad” (this is a Signiant or Aspera server, or an S3 bucket); it will have been configured in to the MediaMonorail environment prior, and this value will be supplied to you. Note: this is the server in which MediaMonorail will come ‘pick up’ the file from you; the file will not be sent through the API call itself.
destination_system_id	A System identifier for the destination “Landing Pad”.
wf_id	A Workflow ID. Workflows restrict file transfers to a defined set of source-destination pairs and can require different metadata. • Use ‘117’ when sending Packages in Disney+ PRODUCTION. • Use ‘118’ when sending Packages in Disney+ STAGING. • Use ‘135’ when sending Packages in Hotstar PRODUCTION. • Use ‘136’ when sending Packages in Hotstar STAGING.
package_name	This needs to be the name of the top-level folder of the Package to be transferred. It should follow the naming convention from section 6: <i>Media Asset Package Framework</i>). Note that there are other hard-coded parameters in the Folder block, shown in the example. Please keep them as shown (i.e. filesize = 0, source_relative_path = / and destination_relative_path = .)
optional_list_of_email_addresses	Email notifications can be sent out, optionally, to confirm successful delivery of the package. The notifications do not grant access to the files themselves.
requires_processing	true/false. Set to "false" when testing if you do not want to actually make the delivery. A database record will still be made in MediaMonorail, and thus the Status will be retrievable/testable with subsequent calls). Set this to “true” for real deliveries when you want the backend automation to act on the request.

Input Parameters (SIP specific)

Parameter	Description
service_provider	A static identifier that will be supplied to you.
task_type	Please statically set this to 'Ingest'.
sip_priority	Please statically set this to 'NORMAL'.
ignore_missing_resources	true/false. Default to false. When delivering a complete package (i.e., all the assets cited in the manifest should be present in the resources folder of the package), set to false. The Validator will then raise an error if one or more assets are not found in the resources folder. For partial packages (for example, perhaps just delivering additional audio and subs), set to true. This will skip the validation that ensures all referenced assets within the MMC are present in the resources folder, since only the additional or replacement assets are being delivered.
order_id	OPTIONAL. This field is used to correlate the package being delivered against a Disney Ordering Tool (DOT) order.
correlated_id	OPTIONAL, and Not Yet Available. This field will be used as a relational identifier that can be used to refer/associate this delivery request to your own internal systems or tracking methods.
callback_url	OPTIONAL. If you would like post-back notifications that update you on the progress through the SIP workflow, you may optionally supply an internet-accessible URL for the updates to be sent. Status of the package Validation process will be sent for both COMPLETED or FAILED deliveries (Refer to Response Payload in the SIP documentation).

8.2.3 Request delivery status

For testing and verification, you can request the delivery status using the Delivery ID contained in the response of the earlier **createDelivery** endpoint.

```
curl --location --request GET 'https://api.v3.mediamonorail.com/delivery/getDeliveryDetails?app_guid={app_guid}&user_id={user_id}&delivery_id={delivery_id}' --header 'Authorization: BEARER {access_token}'
```

Sample Response

Note that while the entirety of the response is shown as an example, there are only a couple of fields of concern, and they are bolded/highlighted and explained below.

```
{
  "users": {
    "user_id": "TITHJ001",
    "user_email": "julian.tith@disney.com",
    "user_first": "Julian",
    "user_last": "Tith",
    "uuid": "bc936886-478b-11e3-80ea-7d49c594634a",
    "user_city": "",
    "user_common_files": "",
    "user_company": "",
    "user_country": "",
    "user_department": "",
    "user_notes": "",
    "user_out_of_office": true,
    "user_phone": "",
    "user_date_created": "2013-08-02 15:50:41",
    "business_unit": 161,
    "name": "Julian Tith",
    "id": 4816
  },
  "ipaddress": null,
  "wfId": 117,
  "corrID": "0575224d-dbe4-4ea5-92eb-a63476d50c46",
  "workflows": {
    "wfName": "Disney+ Service SIP - Production",
    "wfDescription": "Deliveries to DSS and ReView",
    "wfDestRepoID": "",
    "id": 117
  },
  "templateID": 14177,
  "user": {
    "user_id": "TITHJ001",
    "user_email": "julian.tith@disney.com",
    "user_first": "Julian",
    "user_last": "Tith",
    "uuid": "bc936886-478b-11e3-80ea-7d49c594634a",
    "user_city": "",
    "user_common_files": "",
    "user_company": "",
    "user_country": "",
    "user_department": "",
```

```

    "user_notes": "",
    "user_out_of_office": true,
    "user_phone": "",
    "user_date_created": "2013-08-02 15:50:41",
    "business_unit": 161,
    "name": "Julian Tith",
    "id": 4816
  },
  "appId": 48,
  "md_id": 9397780,
  "packageId": 7408470,
  "foldersFidFk": 818474,
  "dhSourceID": "MM_APP",
  "destinations": [],
  "dhDestinationID": "MEDIAMONORAIL",
  "dhFilename": "20200805154233_0BFA-9474-40EC-8B48-FDD2-7",
  "applications": {
    "appDomain": "",
    "app_guid": "67416c3c-3b06-4337-88d0-6e78e02d50c8",
    "appContactCompany": "",
    "appContactDept": "",
    "appContactEmail": "",
    "appContactFirst": "",
    "appContactLast": "",
    "appContactPhone": "",
    "appDescription": "Elastic Beanstalk for New Monorail",
    "appName": "MediaMonorail 3",
    "id": 48
  },
  "dhOrchStartedDate": null,
  "dhDeliveryStatus": 2,
  "dhProgress": 100,
  "alt_transport_id": null,
  "dhParentCorrID": null,
  "dh_first_download": 0,
  "recipients": [],
  "userID": "TITHJ001",
  "dh_expired": false,
  "dh_purged": false,
  "dhDeliveryDate": "2020-09-04 12:45:21",
  "dhFilesize": 0,

  "dhNotifications": "{\n  \"list\": [\n    {\n      \"mail\": \"philip.richards@abc.com\"\n    },\n    {\n      \"mail\": \"julian.tith@disney.com\"\n    }\n  ]\n}",
  "dhSourceRelativePath":
"/Users/julian/Desktop/review_av_packages/20200805154233_0BFA-9474-40EC-8B48-FDD2-7",
  "dhDestRelativePath": "0575224d-dbe4-4ea5-92eb-a63476d50c46",
  "dhPriority": 2,
  "dhAverageTransferSpeed": null,
  "deliveryNotes": "Sending a test for SIP demo",
  "dh_expiration_date": "2020-09-14 12:45:21",
  "dh_expired_date": null,
  "dh_purged_date": null,
  "dh_search_composite": "20200805154233_0BFA-9474-40EC-8B48-FDD2-7|tith1245|Julian Tith",
  "dhExternalID": null,
  "dh_last_status_update_date": "2020-09-04 12:46:05",

```

```

"isPartOfPackage": null,
"packages": {
  "user_id": "TITHJ001",
  "user": {
    "user_id": "TITHJ001",
    "user_email": "julian.tith@disney.com",
    "user_first": "Julian",
    "user_last": "Tith",
    "uuid": "bc936886-478b-11e3-80ea-7d49c594634a",
    "user_city": "",
    "user_common_files": "",
    "user_company": "",
    "user_country": "",
    "user_department": "",
    "user_notes": "",
    "user_out_of_office": true,
    "user_phone": "",
    "user_date_created": "2013-08-02 15:50:41",
    "business_unit": 161,
    "name": "Julian Tith",
    "id": 4816
  },
  "package_id": 7408470,
  "package_guid": "64820422-db4c-44d6-b770-47a97e42079d",
  "delivery_notes": "Sending a test for SIP demo",
  "package_name": "tith1245",
  "delivery_date": "2020-09-04 12:45:21",
  "parent_package_name": "tith1245"
},
"id": 11542333,
"metadata": {
  "md_metadata_object":
    "{\n  \"metadata_object\": {\n    \"fields\": [\n      {\n        \"field_id\": \"submitted_by\",\n        \"field_values\": [\n          {\n            \"stored\": \"Vendor\",\n            \"displayed\": \"Vendor\"\n          },\n          {\n            \"field_id\": \"task_type\",\n            \"field_values\": [\n              {\n                \"stored\": \"INGEST\",\n                \"displayed\": \"Ingest\"\n              },\n              {\n                \"field_id\": \"sip_priority\",\n                \"field_values\": [\n                  {\n                    \"stored\": \"NORMAL\",\n                    \"displayed\": \"Normal\"\n                  },\n                  {\n                    \"field_id\": \"ignore_missing_resources\",\n                    \"field_values\": [\n                      {\n                        \"stored\": \"false\",\n                        \"displayed\": \"False\"\n                      },\n                      {\n                        \"field_id\": \"order_id\",\n                        \"field_values\": [\n                          {\n                            \"stored\": \"DOT-ORDER-123\",\n                            \"displayed\": \"DOT-ORDER-123\"\n                          },\n                          {\n                            \"field_id\": \"correlated_id\",\n                            \"field_values\": [\n                              {\n                                \"stored\": \"VENDOR-ID-123\",\n                                \"displayed\": \"VENDOR-ID-123\"\n                              },\n                              {\n                                \"field_id\": \"callback_url\",\n                                \"field_values\": [\n                                  {\n                                    \"stored\": \"http://www.example.com/callback_url\",\n                                    \"displayed\": \"http://www.example.com/callback_url\"\n                                  },\n                                  {\n                                    \"field_id\": \"Destinations\",\n                                    \"field_values\": [\n                                      {\n                                        \"stored\": \"ReView_Vendor_grey_PROD\",\n                                        \"displayed\": \"ReView_Vendor_grey_PROD\"\n                                      },\n                                      {\n                                        \"field_id\": \"priority\",\n                                        \"field_values\": [\n                                          {\n                                            \"stored\": \"2\",\n                                            \"displayed\": \"Medium\"\n                                          },\n                                          {\n                                            \"field_id\": \"email\",\n                                            \"field_values\": [\n                                              {\n                                                \"displayed\": \"philip.richards@abc.com\",\n                                                \"stored\": \"philip.richards@abc.com\"\n                                              },\n                                              {\n                                                \"field_id\": \"senderEmail\",\n                                                \"field_values\": [\n                                                  {\n                                                    \"stored\": \"philip.richards@abc.com\",\n                                                    \"displayed\": \"philip.richards@abc.com\"\n                                                  },\n                                                  {\n                                                    \"field_id\": \"delivery_notes\",\n                                                    \"field_values\": [\n                                                      {\n                                                        \"stored\": \"Sending a test for SIP demo\",\n                                                        \"displayed\": \"Sending a test for SIP demo\"\n                                                      },\n                                                      {\n                                                        \"field_id\": \"workflow_id\",\n                                                        \"field_values\": [\n                                                          {\n                                                            \"stored\": 117,\n                                                            \"displayed\": 117\n                                                          },\n                                                          {\n                                                            \"field_id\": \"template_id\",\n                                                            \"field_values\": [\n                                                              {\n                                                                \"stored\": 14177,\n                                                                \"displayed\": 14177\n                                                              },\n                                                              {\n                                                                \"field_id\": \"sip_job_id\",\n                                                                \"field_values\": [\n                                                                  {\n                                                                    \"stored\": \"5f529985e7d4ed0008eb71e3\",\n                                                                    \"displayed\": \"5f529985e7d4ed0008eb71e3\"\n                                                                  },\n                                                                  {\n                                                                    \"stored\": \"5f529985e7d4ed0008eb71e3\",\n                                                                    \"displayed\": \"5f529985e7d4ed0008eb71e3\"\n                                                                  }\n                                                                ]\n                                                              }\n                                                            ]\n                                                          }\n                                                        ]\n                                                      }\n                                                    ]\n                                                  }\n                                                ]\n                                              }\n                                            ]\n                                          }\n                                        ]\n                                      }\n                                    ]\n                                  }\n                                ]\n                              }\n                            ]\n                          }\n                        ]\n                      }\n                    ]\n                  }\n                ]\n              }\n            ]\n          }\n        ]\n      }\n    }\n  }\n}\n"
  "id": 9397780
}
}

```

For tracking the Delivery, the response will contain a Status (**dhDeliveryStatus**):

Value	Description
0	Queued
1	Transferring
2	Complete
3	Error
4	Canceled

- For tracking the Delivery, the response will contain a Percentage (dhProgress), showing the percentage transferred from 0 to 100.
- Once the file has finished transferring, the Status will show '2', progress will show '100', and our automation will immediately kick off a SIP workflow, initiating a Package validation.
- To track the progress of your package, a SIP job ID will be made available to you in the response to your getDeliveryDetails request, shortly after the entire package has completed transferring. You will have to JSON parse the md_metadata_object and retrieve the sip_job_id, as shown in the example above.
- From there, you may refer to the SIP documentation for further details, just keep in mind that we have kicked off the initial creation of the SIP workflow, and initiated a Validation request on your behalf as part of this MediaMonorail integration. Therefore when referring to those SIP-specific docs, those steps can be skipped.
- Please refer to the Checking SIP Workflow Status for instructions on querying our SIP API.

8.2.4 Upload with the MediaMonorail UI

Background

This guide assumes you have Users already familiar with the MediaMonorail web application at MediaMonorail.com. If that is not the case, or you need to on-board new Users in to MediaMonorail, please refer to the MediaMonorail User Documentation and/or reach out to the Support team at DATG.DL-JellyrollSupport@disney.com

Please note: MediaMonorail requires the local installation of an Aspera Connect web client.

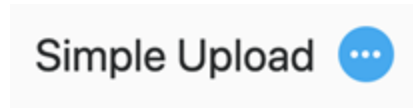
Access

MediaMonorail.com is gated by Disney's MyID authentication system. All users uploading Packages must have an account. Reach out to your Disney partner for assistance, or email the Support team at DATG.DL-JellyrollSupport@disney.com

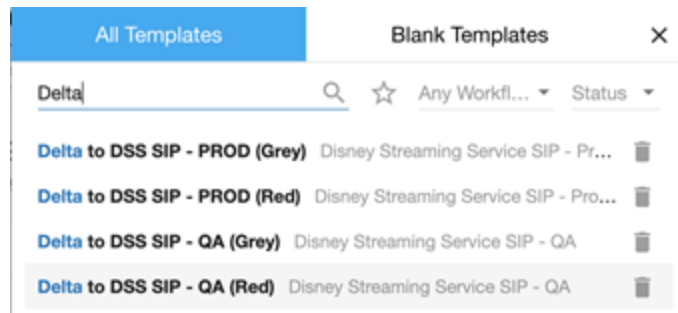
Workflow

You will be provided form Templates to be used in MediaMonorail. These are web forms that will be accessible via a direct URL that you may Favorite in your browser, or you may bookmark them within the app itself. To do this:

1. Click on the 3-dotted button sitting just about center page. This will pop up the Template modal.



2. Search for your Template (i.e. "DSS SIP" or your company name) and Select it.



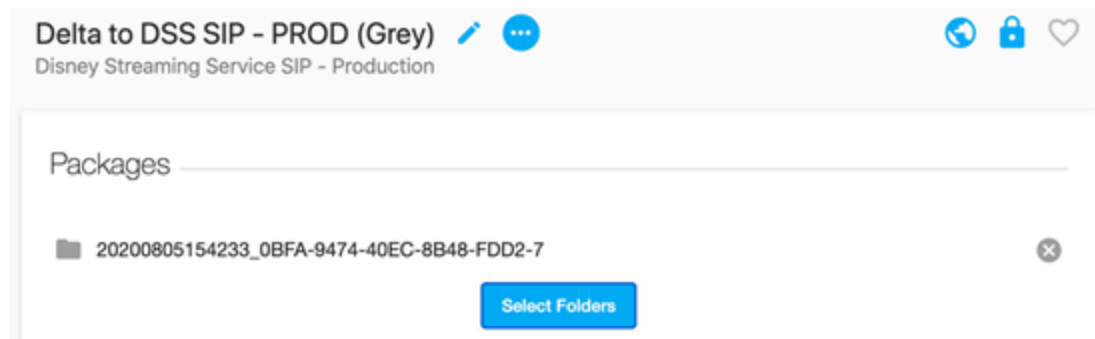
3. Find the little heart icon on the top-right of the page and click it to Bookmark this Template to the top of your page for future fast-retrieval.



Upload

Once within a loaded Template, you may Upload a Package:

1. Hit the "Select Folders" button to open the Aspera Connect client.
2. Navigate to the Package folder on your desktop and hit Open.



Note: the Folder selected needs to be named the Package Name. It should follow the naming convention from Section 6: Media Asset Package Framework).

3. Fill in any required metadata. Most fields will have been pre-filled in for you, but you may be requested, for example, to input a DOT Order ID during the upload process.

The screenshot shows a 'Delivery Info' form with the following fields and values:

- Submitted By:** Delta
- Task Type:** Ingest
- SIP Priority:** Normal
- Ignore Missing Resources?:** False
- Order ID:** (empty)
- Correlated ID:** (empty)
- Callback URL:** (empty)
- Landing Pad:** ReView Delta grey PROD
- Priority:** Medium

- The **Submitted By**, **Task Type** and **SIP Priority** fields are currently hard-coded.
 - **Ignore Missing Resources?** True/False. Defaults to False.
 - When delivering a complete package (i.e., all the assets cited in the manifest should be present in the resources folder of the package), set to false. The Validator will then raise an error if one or more assets are not found in the resources folder.
 - For partial packages (for example, perhaps just delivering additional audio and subs), set to true. This will skip the validation that ensures all referenced assets within the MMC are present in the resources folder, since only the additional or replacement assets are being delivered.
 - The **Order ID** SHOULD be used for all deliveries and is used to relate the uploaded package to a Disney Ordering Tool (DOT) order.
 - The **Correlated ID** is an optional relational ID field for your own internal use of tying this upload back to workflows or assets within your own systems or applications.
 - The **Callback URL** is optional. If you would like post-back notifications that update you on the progress through the SIP workflow, you may optionally supply an internet-accessible URL for the updates to be sent. Status of the package Validation process will be sent for both COMPLETED or FAILED deliveries (Refer to Response Payload in the SIP documentation). This is more common with our API users.
4. **Email Notifications** are optional. The email recipients are NOT granted access to the files being transferred.
 5. Hit the **Send** button and wait for the upload to complete, as shown in the Aspera Connect client.

Status

In order to track the workflow progress of the Package you have uploaded, you may want to query the SIP pipeline's API. After uploading a package in the MediaMonorail UI, a SIP workflow and a validation request will both be requested on your behalf. A SIP workflow ID can be retrieved from your Delivery History in order to further track the SIP workflow; from this point you will have to reference the SIP API documentation. To find your SIP job id:

1. Hit the **History** link on the top nav-bar of the site.
2. Find and Click the **Package** you uploaded; it should be at the top of the list, if recently uploaded.
3. Finally, click on the word **Metadata**, in order to expand the view of all metadata fields associated with the delivery, including the newly created SIP Job ID that will show up very shortly after the package has completed uploading (shown below). This **SIP Job ID** can be used in order to check the workflow status on the Disney side. See **Checking SIP Workflow Status** for details.

The screenshot shows the MediaMonorail UI interface. At the top, there is a blue navigation bar with links: Downloads, History, QC Reports, and Monorail V4. Below this, the main content area displays the package ID '20200805154235_0BFA-9474-40EC-8B48-FDD2-7' and 'ID 11567982'. A 'Download' button is visible. The 'Metadata' section is expanded, showing various fields: Submitted by: Delta, Task type: Ingest, Sip priority: Normal, Ignore missing_resources: False, Order id:, Correlated id:, Callback url:, Destinations: ReView Delta grey QA, Priority: Medium, Email:, SenderEmail: philip.richards@abc.com, Delivery notes:, Workflow id: 118, Template id: 14232, and SIP Job id: 5b27ec4d7cd143168e43f9b33f22d0d5. The SIP Job ID is circled in red. At the bottom, there is a 'Send Another Like This' button.

Field	Value
Submitted by	Delta
Task type	Ingest
Sip priority	Normal
Ignore missing_resources	False
Order id	
Correlated id	
Callback url	
Destinations	ReView Delta grey QA
Priority	Medium
Email	
SenderEmail	philip.richards@abc.com
Delivery notes	
Workflow id	118
Template id	14232
SIP Job id	5b27ec4d7cd143168e43f9b33f22d0d5

8.2.5 Single Ingest Pipeline

Background

To monitor the progress of each delivery as it is orchestrated from one workflow step to the next, you can either use the SIP API or within the SIP Control application (See Section 8.3). Initially, monitoring can be achieved via a polling mechanism using the getJob API endpoint or by leveraging the callback feature, which allows for SIP to notify you regarding the status of the job as it updates.

Environments:

You will have access to the following environments to integrate with the GetJob Disney+ Single Ingest Pipeline API:

- Staging (stg)
- Production (prd)

Staging

- OAuth2 endpoint: <https://auth-ingest.fulfillment.cpe.dtcistg.technology/oauth2/token>
- Scope=ingest-api/getJob
- Get Job API endpoint: `https://api-ingest.fulfillment.cpe.dtcistg.technology/getJob?id=<<jobId>>`

Production

- OAuth2 endpoint: <https://auth-ingest.fulfillment.cpe.dtc.technology/oauth2/token>
- Scope=ingest-api/getJob
- Get Job API endpoint: `https://api-ingest.fulfillment.cpe.dtc.technology/getJob?id=<<jobId>>`

Get an Authorization Token

- The below will give you a token to initiate a SIP getJob
- The token will be valid for 1 hour and can be renewed
- Provide the scope: ingest=api/getJob

```
TOKEN=$(curl -s <<OAuth_URL_FOR_TOKEN>> -d grant_type=client_credentials -d client_id=<<client_id>> -d client_secret=<<client_secret>> scope=ingest-api/getJob | jq -r .access_token)
```

Pull The Job / Get Job Details:

- Once the job is created you can start polling it with job ID.

```
curl -s -H "Authorization: Bearer $TOKEN"
https://api-ingest.fulfillment.cpe.dtcistg.technology/getJob?id=122344555
```

Sample Response Payload

```
{
  "id": "5f3f0217c9c4ad0079dc37d",
  "label": "label",
  "platform": "Disney+",
  "orderId": "WO-0093512",
  "progress": null,
  "outputs": {
```

```

"validationResult": {
  "valid": true,
  "details": [
    {
      "level": "WARNING",
      "message": "Element style size should be 1px is black 4%",
      "validator": "VALIDATE_TTML",
      "rule": null,
      "key": null,
      "value": null,
      "file":
"s3://s3bucket/10bc3d6e-6d44-43e8-8e21-ab916e6a4422/20200812102243_14C4-2DFE-1892-D6F3-E67F-J/resources/
AtlantisRising_193596_NSVR_VAM15096215_INT_P_EST_SUBSDHIMSC_23_ENG_178_MOS-XX_RT00047_ConformsToPTX_2Min
utePreviewClip.ttml"
    },
    {
      "level": "WARNING",
      "message": "5.1 Audio Track is missing a corresponding 2.0 Audio Track for the same language",
      "validator": "VALIDATE_MMC",
      "rule": null,
      "key": "manifest:MediaManifest, manifest:Inventory, manifest:Audio",
      "value": "5.1 Audio Track detected for \"en\", but no corresponding 2.0 Audio Track detected",
      "file": null
    },
    {
      "level": "WARNING",
      "message": "SchemaLocation: schemaLocation value = 'http'",
      "validator": "VALIDATE_MDDF",
      "rule": null,
      "key": "tag",
      "value": "XML: line 1",
      "file":
"s3://s3bucket/10bc3d6e-6d44-43e8-8e21-ab916e6a4422/20200812102243_14C4-2DFE-1892-D6F3-E67F-J/14C4-2DFE-
1892-D6F3-E67F-J.xml"
    }
  ]
},
"availStatusResult": null,
"dssTransferResult": {
  "valid": true,
  "details": []
},
"dssStatusResult": null
},
"inputs": {
  "ignoreFulfillmentDoc": true,
  "ignoreMissingResources": true,
  "ignoreLocalizationsCheck": null,
  "manifest":
"s3://<s3_bucket_for_assets>/10bc3d6e-1234-43e8-1234-ab916e6a4422/20200812102243_23DS-3DSA-1892-S345-A
123C-D/23DS-3DSA-1892-S345-A123C-D.xml"
},
"overallProgressCode": "In-Process",
"workflowStep": "DSS_TRANSFER",
"progressDetail": "Transfer_Complete",
"createTime": "2020-08-20T23:07:03.988Z",

```

```

    "createdBy": "DisneyPackaging",
    "startTime": "2020-08-20T23:07:43.602Z",
    "endTime": "2020-08-20T23:11:07.166Z"
  }

```

Status Aggregation

For the purpose of determining the status of a package, the Single Ingest Pipeline workflow response contain three primary fields:

- **overallProgressCode** – This is the overall status of the entire Single Ingest Pipeline and Disney+ ingest process. As a result, the overall progress code will be in a state of “In-Process” unless there is an issue.
- **workflowStep** – This helps to identify the specific workflow step the specific SIP Job / Disney+ package is currently on.
- **progressDetail** – This provides a more granular detail regarding the specific SIP Job / Disney+ package while the package has an overall progress code of “In-Process”. If the SIP Job / Disney+ package enters an overall progress code of “Issue” the job has failed. For further details regarding a Job/Package in an issue state, refer to the details in the payload for that workflow Step. A full list of Progress Details and definitions is available in section 8.2.5.

The Disney+ Single Ingest Pipeline (SIP) workflow is leveraged within the digital supply chain to orchestrate the necessary workflow steps required to deliver Disney+ compliant packages to Disney+.

Currently, the Single Ingest Pipeline consists of seven primary workflow steps.

- **Inspect** - A serverless service used to introspect the package in order to prepare the package for ingest. Possible Progress Details are:
 - **In-Process -> Queued** - The package is waiting for a package with an identical ALID to complete the SIP workflow. The package will release once the package with the corresponding ALID has either successfully ingested or has been rejected.
 - **In-Process -> Inspecting** - The package is being introspected.
 - **Issue -> Rejected** - The package failed to be introspected due to a malformed MDDF package.
 - **Issue -> Canceled** - The package was canceled by the user.
- **Madmartigan** – A serverless service used to validate all AV packages and asset components against the latest Disney+ & Hotstar Content Delivery Specification. Madmartigan can be invoked as a standalone service, or will be invoked within SIP. Possible Progress Details are:
 - **In-Process -> Queued** - The package is pending Madmartigan validation
 - **In-Process -> Validating** - The package is being validated.
 - **In-Process -> Validation Successful** - The package validated successfully and the Bumper Cars workflow will begin.

- **Issue -> Rejected** - The package failed to validate successfully and results regarding the failure can be found in the SIP Control UI or the SIP API response. The package must be remediated and retried or resubmitted depending on the issue.
 - **Issue -> Canceled** - The package was canceled by the user.
- **Bumper Cars** - A workflow that is invoked to add pre/post roll bumpers as required per internal business logic. Bumper Cars will always run, but will have a status of “skipped” if bumpers are not required for the package. If bumpers are required, the status of the workflow will be reflected via the API and within SIP Control. Possible Progress Details are:
 - **In-Process -> Queued** - The package is pending Bumper Cars processing
 - **In-Process -> Inspecting** - The package is currently pulling back the latest MMC from Disney+ and comparing the incoming MMC against it in order to determine bumper requirements.
 - **In-Process -> Bumpers Added** - The package is getting the required bumpers added to the MMC and to the resources folder (if not previously delivered to Disney+).
 - **In-Process -> Update Successful** - The package has successfully had bumpers added to the MMC and the resources folder (if not previously delivered to Disney+).
 - **In-Process -> Validating** - The package has successfully run and the output package with bumpers is being validated.
 - **In-Process -> Validation Successful** - The package has successfully run and the output package with bumpers has been validated. The DSS Transfer workflow step will now begin.
 - **In-Process -> Skipped** - The package does not qualify to have bumpers added because it is not a Disney+, Star, or Star+ Original. The DSS Transfer workflow step will now begin.
 - **Issue -> Rejected** - The package had an issue within Bumper Cars. This issue state triggers internal alerting to triage the issue as this is an internal issue. There is nothing for the packaging system to do to resolve this issue. The issue must be resolved by the SIP support team. If you see this issue and it is not triaged, please create a ticket using the TWDC Support Portal.
 - **Issue -> Canceled** - The package was canceled by the user.
- **DSS Transfer** – The transfer of a package from the S3 (SIP bucket) to the Disney+ storage leveraging MediaMonorail. Possible Progress Details are:
 - **In-Process -> Queued** - The package is pending delivery to Disney+.
 - **In-Process -> Transferring** - The package is currently transferring to Disney+.
 - **In-Process -> Transfer Complete** - The package successfully transferred to Disney+ and the Avail Status check will begin.
 - **Issue -> Rejected** - The package had an issue transferring. This issue state triggers internal alerting to triage the issue as this is an internal issue. There is nothing for the packaging system to do to resolve this issue. The issue must be resolved by the SIP support team. If you see this issue and it is not triaged, please create a ticket using the TWDC Support Portal.
 - **Issue -> Canceled** - The package was canceled by the user.

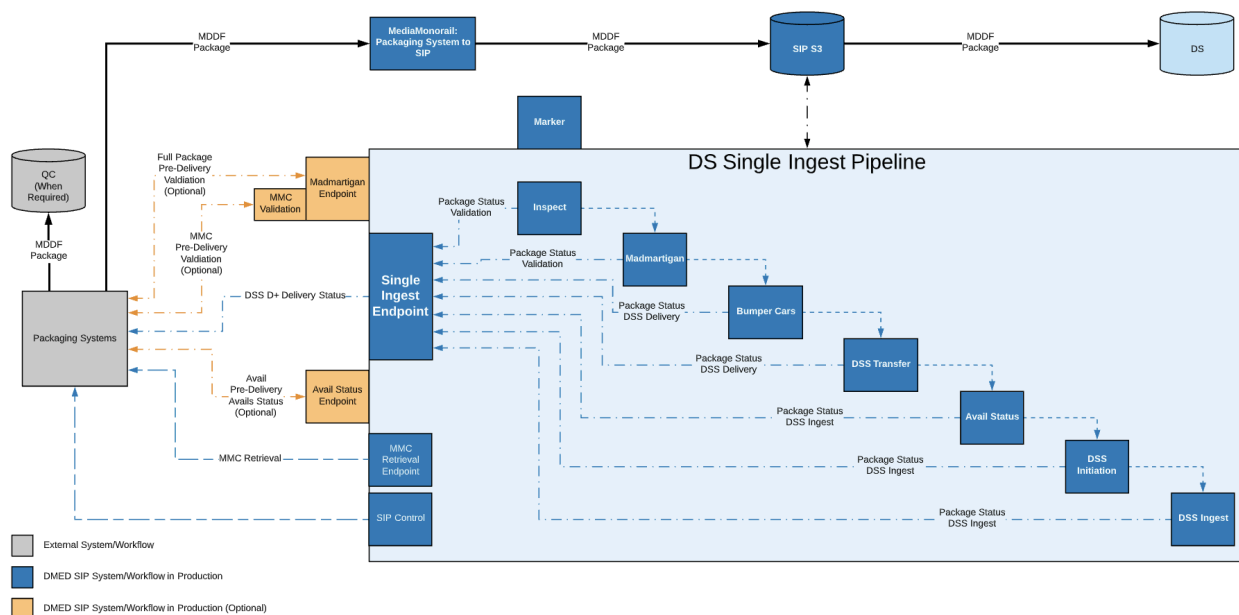
- **Avail Status** – A service that checks if an avail has been received by Disney+ for a specific ALID. Disney+ AV packages cannot be ingested without a corresponding avail for the ALID referenced within the MMC. The Avail status can be invoked as a standalone service, or will be invoked within the SIP workflow after successful DSS Transfer. Within the Single Ingest Pipeline, any package that does not have a corresponding avail will be gated until one of two trigger events happen:
 - The avail is received by Disney+, which will trigger the package(s) associated with the ALID to be released based on the updateNum within the package.
 - It is identified the package was submitted with an incorrect ALID, in which case the package will be terminated and a new package will need to be submitted.
- **In-Process -> Queued** - The package is pending avail status check.
- **In-Process -> Availed** - The package has been confirmed to have an Avail at Disney+ and the DSS Initiated process will begin.
- **In-Process -> Waiting for Avail** - The package does not currently have an Avail delivered to Disney+
- **Issue -> Rejected** - The package had an internal issue. This issue state triggers internal alerting to triage the issue as this is an internal issue. There is nothing for the packaging system to do to resolve this issue. The issue must be resolved by the SIP support team. If you see this issue and it is not triaged, please create a ticket using the TWDC Support Portal.
- **Issue -> Canceled** - The package was canceled by the user.
- **DSS Initiation** – During this workflow step, SIP hands off the package to the Disney+ ingest process. Possible Progress Details are:
 - **In-Process -> Queued** - The package is pending Disney+ Initiation.
 - **In-Process -> Initiated** - SIP is initiated the Disney+ ingest process
 - **In-Process -> Initiation Successful** - Disney+ has successfully been initiated and the DSS Ingest process will begin.
 - **Issue -> Rejected** - The package had an internal issue. This issue state triggers internal alerting to triage the issue as this is an internal issue. There is nothing for the packaging system to do to resolve this issue. The issue must be resolved by the SIP support team. If you see this issue and it is not triaged, please create a ticket using the TWDC Support Portal.
 - **Issue -> Canceled** - The package was canceled by the user.
- **DSS Ingest** – The various processes required by Disney+ to ingest content. Possible Progress Details are:
 - **In-Process -> Acknowledged** - Disney+ Acquisition is aware of the package and ingest request.

- **In-Process -> Inspecting** - Disney+ Acquisition is inspecting the MMC and preparing the package for ingest.
- **In-Process -> Validating** - Disney+ Acquisition is running validations on the entire package.
- **In-Process -> Delayed** - Disney+ Acquisition has entered an Internal Error state and will attempt multiple retries. If the retry is successful, the package will move to Acquired. If the retry is not successful, the package will move to Rejected.
- **In-Process -> Acquired** - Disney+ Acquisition has successfully validated the package and is currently processing/transcoding the content.
- **In-Process -> Ingested** - Disney+ Acquisition process has completed successfully. This is the last step in the SIP process and your package has been successfully delivered.
- **Issue -> Rejected** - Disney+ Acquisition ingest has failed. The SIP process is complete, but your package was NOT successfully delivered. You must review the issue and send a new remediated package.

Once the package has successfully ingested into Disney+, the Single Ingest Workflow is complete. Disney+ will then QC the content and if any further remediation is required, you will be notified and required to supply a new supplemental package to resolve the identified issue.

If the package fails to ingest into Disney+, you can either use the SIP response payload or the Disney+ Content Portal & Backstage UI to identify the issue. Once remediated, you will need to resubmit the package to SIP.

Report any issues/concerns or if you need access to any of the required applications, please go to the [TWDC Support Portal](#) and select the correct application and request.



Status Aggregation Hotstar

For the purpose of determining the status of a package, the Hotstar Single Ingest Pipeline workflow response contain three primary fields:

- **overallProgressCode** – This is the overall status of the entire Single Ingest Pipeline and Hotstar ingest process. As a result, the overall progress code will be in a state of “In-Process” unless there is an issue.
- **workflowStep** – This helps to identify the specific workflow step the specific SIP Job / Hotstar package is currently on.
- **progressDetail** – This provides a more granular detail regarding the specific SIP Job / Hotstar package while the package has an overall progress code of “In-Process”. If the SIP Job / Hotstar package enters an overall progress code of “Issue” the job has failed. For further details regarding a Job/Package in an issue state, refer to the details in the payload for that workflow Step. A full list of Progress Details and definitions is available in section 8.2.5.
 - Currently, the following will be the end of the Single Ingest Pipeline for Hotstar and can be used as the point at which you know your package has delivered & Ingested successfully for Hotstar
 - workflowStep = **Ingest**
 - overall ProgressCode = **In-Process**
 - progressDetail = **Ingested**

The Hotstar Single Ingest Pipeline (SIP) workflow is leveraged within the digital supply chain to orchestrate the necessary workflow steps required to deliver Hotstar compliant packages to Hotstar.

Currently, the Hotstar Single Ingest Pipeline consists of Six primary workflow steps.

- **Inspect** - A serverless service used to introspect the package in order to prepare the package for ingest. Possible Progress Details are:
 - **In-Process -> Queued** - The package is waiting for a package with an identical ALID to complete the SIP workflow. The package will release once the package with the corresponding ALID has either successfully ingested or has been rejected.
 - **In-Process -> Inspecting** - The package is being introspected.
 - **Issue -> Rejected** - The package failed to be introspected due to a malformed MDDF package.
 - **Issue -> Canceled** - The package was canceled by the user.
- **Madmartigan** – A serverless service used to validate all AV packages and asset components against the latest [Disney+](#) & Hotstar Content Delivery Specification. Madmartigan can be invoked as a standalone service, or will be invoked within SIP. Possible Progress Details are:
 - **In-Process -> Queued** - The package is pending Madmartigan validation
 - **In-Process -> Validating** - The package is being validated.
 - **In-Process -> Validation Successful** - The package validated successfully and the Bumper Cars workflow will begin.

- **Issue -> Rejected** - The package failed to validate successfully and results regarding the failure can be found in the SIP Control UI or the SIP API response. The package must be remediated and retried or resubmitted depending on the issue.
 - **Issue -> Canceled** - The package was canceled by the user.
- **Bumper Cars** - A workflow that is invoked to add pre/post roll bumpers as required per internal business logic. Bumper Cars will always run, but will have a status of “skipped” if bumpers are not required for the package. If bumpers are required, the status of the workflow will be reflected via the API and within SIP Control. Possible Progress Details are:
 - **In-Process -> Queued** - The package is pending Bumper Cars processing
 - **In-Process -> Inspecting** - The package is currently pulling back the latest MMC from Hotstar and comparing the incoming MMC against it in order to determine bumper requirements.
 - **In-Process -> Bumpers Added** - The package is getting the required bumpers added to the MMC and to the resources folder (if not previously delivered to Hotstar).
 - **In-Process -> Update Successful** - The package has successfully had bumpers added to the MMC and the resources folder (if not previously delivered to Hotstar).
 - **In-Process -> Validating** - The package has successfully run and the output package with bumpers is being validated.
 - **In-Process -> Validation Successful** - The package has successfully run and the output package with bumpers has been validated. The Transfer workflow step will now begin.
 - **In-Process -> Skipped** - The package does not qualify to have bumpers added because it is not a Disney+, Star, or Star+ Original. The Transfer workflow step will now begin.
 - **Issue -> Rejected** - The package had an issue within Bumper Cars. This issue state triggers internal alerting to triage the issue as this is an internal issue. There is nothing for the packaging system to do to resolve this issue. The issue must be resolved by the SIP support team. If you see this issue and it is not triaged, please create a ticket using the TWDC Support Portal.
 - **Issue -> Canceled** - The package was canceled by the user.
- **Transfer** – The transfer of a package from the S3 (SIP bucket) to the Hotstar storage leveraging MediaMonorail. Possible Progress Details are:
 - **In-Process -> Queued** - The package is pending delivery to Hotstar.
 - **In-Process -> Transferring** - The package is currently transferring to Hotstar.
 - **In-Process -> Transfer Complete** - The package successfully transferred to Hotstar.
 - **Issue -> Rejected** - The package had an issue transferring. This issue state triggers internal alerting to triage the issue as this is an internal issue. There is nothing for the packaging system to do to resolve this issue. The issue must be resolved by the SIP support team. If you see this issue and it is not triaged, please create a ticket using the TWDC Support Portal.
 - **Issue -> Canceled** - The package was canceled by the user.
- **Initiation** - Possible Progress Details are:

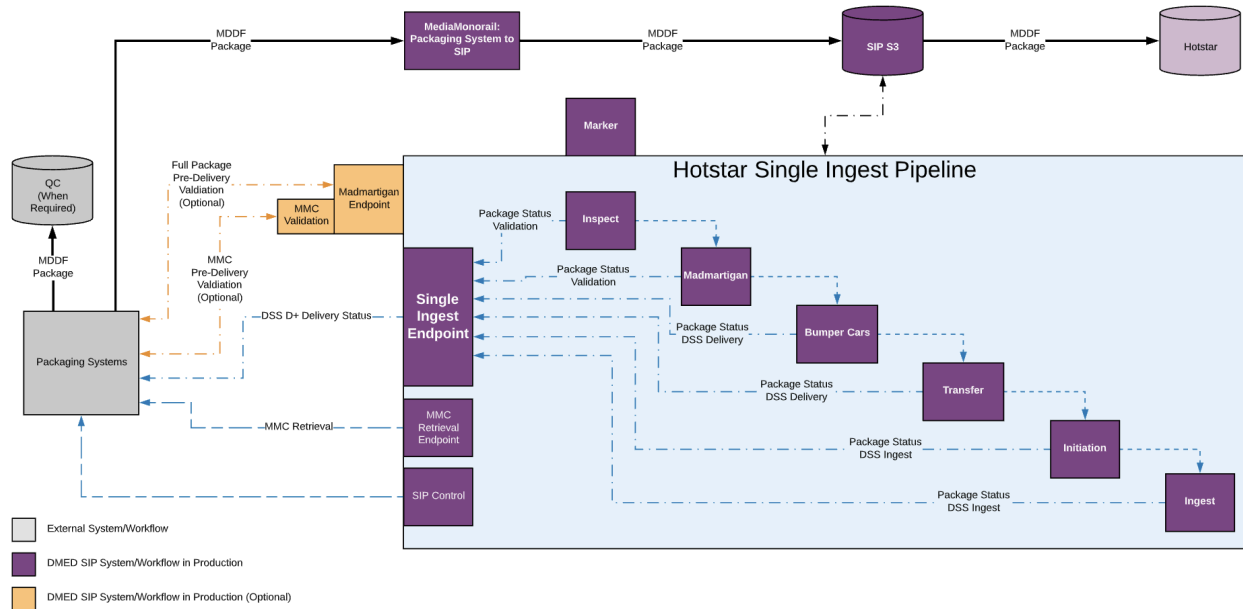
- **In-Process -> Queued** - The package is pending the Hotstar Initiation Workflow Step
 - **In-Process -> Initiated** - SIP is initiated the Hotstar ingest process
 - **In-Process -> Initiation Successful** - Hotstar has successfully been initiated and the Ingest process will begin.
 - **Issue -> Rejected** - The package had an internal issue. This issue state triggers internal alerting to triage the issue as this is an internal issue. There is nothing for the packaging system to do to resolve this issue. The issue must be resolved by the SIP support team. If you see this issue and it is not triaged, please create a ticket using the TWDC Support Portal.
 - **Issue -> Canceled** - The package was canceled by the user.
- **Ingest** – The various processes required by Hotstar to ingest content. The Ingest is invoked as the sixth and final workflow step. Possible Progress Details are:
 - **In-Process -> Acknowledged** - Hotstar is aware of the package and ingest request.
 - **In-Process -> Inspecting** - Hotstar is inspecting the MMC and preparing the package for ingest.
 - **In-Process -> Validating** - Hotstar is running validations on the entire package.
 - **In-Process -> Delayed** - Hotstar has entered an Internal Error state and will attempt multiple retries. If the retry is successful, the package will move to Acquired. If the retry is not successful, the package will move to Rejected.
 - **In-Process -> Acquired** - Hotstar has successfully validated the package and is currently processing/transcoding the content.
 - **In-Process -> Waiting for Avail** - The package does not currently have an Avail delivered to Hotstar. For Hotstar, an Avail for the corresponding ALID is required prior to the ingest of an Audio & Video (AV) Package. Please reach out to your LTS representative.
 - **In-Process -> Waiting for AMP** – The package does not currently have an AMP (Artwork and Metadata Package) delivered to Hotstar. For Hotstar, an AMP for the corresponding Content ID is required prior to the ingest of an Audio & Video (AV) Package. Please reach out to your LTS representative.
 - **In-Process -> Waiting for Avail & AMP** – The package does not currently have an Avail or AMP (Artwork and Metadata Package) delivered to Hotstar. For Hotstar, an Avail and AMP for the corresponding Content ID is required prior to the ingest of an Audio & Video (AV) Package. Please reach out to your LTS representative.
 - **In-Process -> Ingested** - Hotstar process has completed successfully. This is the last step in the SIP process and your package has been successfully delivered.
 - **Issue -> Rejected** - Hotstar ingest has failed. The SIP process is complete, but your package was NOT successfully delivered. You must review the issue and send a new remediated package.

NOT YET SUPPORTED, but

Once the package has successfully ingested into Hotstar, the Single Ingest Workflow is complete. Hotstar will then QC the content and if any further remediation is required, you will be notified and required to supply a new supplemental package to resolve the identified issue.

If the package fails to ingest into Hotstar, you can either use the SIP response payload or SIP Control dashboard to identify the issue. Once remediated, you will need to resubmit the package to SIP.

Report any issues/concerns or if you need access to any of the required applications, please go to the [TWDC Support Portal](#) and select the correct application and request.



8.3 SIP Control

Background

SIP Control is a web user interface that can be used to track the entire Single Ingest Process and Disney+ Ingest process. In addition, the application can be used to prioritize jobs, cancel jobs, retry jobs, and view low level details regarding component metadata, marker data, and title metadata. The Component UI portion of the application can be used to upload new components, update incorrect metadata against an existing ALID, and remove incorrect assets that cannot be redelivered in a timely manner.

Environments

You will have access to the following environments to access SIP Control:

- Production: <https://sipcontrol.fulfillment.cpe.dtc.technology/>
- Staging: <https://sipcontrol.fulfillment.cpe.dtcstg.technology/>

8.4 Mobius

Background

Mobius is a web user interface that is used to create the required [Content Marker](#) data for Disney+ and Hostar deliveries. The application is used to enter the required and optional marker data against the specified ALID so that the marker data can be transmitted to Disney+ and/or Hotstar.

Environments

You will have access to the following environments to access Marker:

- Production: <https://content.twdc.technology/markers/>
- Pre-Production : <https://platform-ui-preprod.content.twdc.technology/markers/>

Mobius Support

Should you require support for Mobius, please use the [support portal](#) and enter Mobius as your application.

8.5 Disney+ Content Portal & Legacy Disney+ Backstage

Background

Disney+ Content Portal and Legacy Disney+ Backstage are web user interfaces that can be used to view a more detailed error message for the Disney+ Ingest and processing workflows should details not be sufficient within the SIP API response or SIP Control UI view the ingest status of a package within the Disney+ pipeline.

Environments

You will have access to the following environments to access Disney+ Content Portal:

- Production URL: <https://content.hulu.com/assets>
- Staging URL: <https://content.staging.hulu.com/assets>

You will have access to the following environments to access Legacy Disney+ Backstage:

- Production URL: <https://backstage-us.bamtechmedia.com>
- QA URL: <https://backstage-qa.bamgrid.com/>

8.6 High Security Title Communication and Delivery

Titles classified as high security must follow communication rules as defined by Disney Content Security. Consult with the appropriate Disney Title Manager for specifics surrounding the details of high security title communication.

All new titles or pre-release content must be delivered with a G2 forensic watermark (Nexguard) if it is entering the supply chain any time before 4 weeks after the earliest release date. Also, library content that has already been released for in-home distribution, but is now releasing in a UHD format for the first time to the public, must also add a G2 forensic watermark. The service provider must document each watermark and provide this information to Disney.

Delivery of high security titles to Disney+ must be transferred to the appropriate quarantined “red bucket” validator location, assigned to that packaging service. The Disney on-boarding team will supply the packager with a file path and name of the quarantined high security title “red bucket” for use with Disney validation. All pre-release content should be sent here if it is in the supply chain prior to 4-weeks after the earliest release date (in-home digital or physical release).

9 Appendix A - Type Fields Descriptions

Field List		
Name	Document	Location
Type	MMC	Experience
SubType	MMC	Experience
Workflow	MMC	Header

Content Type	MMC Type value	MMC SubType value	MMC Workflow value
Feature	Main	Feature	Feature
Episode	Main	Episode	Episode
Trailer	Promotion	Trailer	Trailer
Clip	Promotion	Clip	Trailer
Bonus	Bonus	Bonus	Bonus
Short	Main	Short	Short

10 Appendix B - Multi-Aspect Ratio Support

10.1 Media Validation Rules for Supporting Multiple Aspect Ratios

- If any video in any presentation has SubType defined, then every video in every presentation must also have a SubType defined.
- If the delivery is using an MMC version less than 1.9, then video inventories cannot have a Subtype and will therefore fail to deliver multiple aspect ratios.
- If any video in a presentation has a SubType defined, then one and only one of them in the presentation must have the value “default” (only applies to non-UHD presentations)
- All videos of the same SubType must have the same active pixel height and width across the entire playable sequence
- All Packages must have a “main” presentation; all non-main presentations such as dub cards or bumpers must have the exact same SubTypes present as the main presentation
- A SubType can only be used once per presentation
- The values for all video SubTypes will be validated against a dictionary of allowed values, any value that does not match what is in the dictionary with case sensitivity will be rejected
- Only one SubType may be provided for a video inventory (this is a business rule, even though the schema allows for multiple SubTypes to be listed under a video inventory; if future use cases require, this can be expanded to allow for multiple SubTypes to be present)
- If the active pixel height and width cannot be used to calculate a valid image aspect ratio, the package will be rejected; height and width each need to be a whole number that is greater than zero
- Active pixel height and width are required video inventory attributes
- A non-main presentation can contain more video tracks than defined in main; however, all videos must still have a SubType defined
- Ensure that the supplied checksums in the MMC match for video entries that reference the same file. So if a 4:3 video references the same file as a 16:9 video, we would reject if their checksums defined in the MMC were different.

10.1.1 Dictionary of Allowed Values for ‘SubType’ within the Video Inventory

IAR	Description	MMC SubType Value	Use Case
ANY	Default IAR	default	OAR
133	1.33:1	ImageAspectRatio=133	Simpsons 1.33
190	1.90:1	ImageAspectRatio=190	IMAX 1.90

11 Appendix C - MMC Inventory Metadata Values That Will Trigger an Ingest/Replace

It is very common to send a supplemental package for an existing package previously delivered to Disney+. The following are common use cases for supplemental package deliveries:

- Replace assets that have been flagged with an issue by QC
- Resolve metadata related issues within the MMC, such as incorrect Marker timings or Active Pixels.
- Add additional assets to the existing package to support additional languages.
- Upgrade an existing package from HD to UHD

The following MMC inventory track attributes will trigger a “Replace” event for the corresponding asset. Therefore when updating the following MMC inventory track attributes, the corresponding file **MUST** be included in the resources folder.

11.1 manifest:Audio

- manifest:ContainerLocation (File Path or Name)
- manifest:Hash method="MD5" (Checksum)

11.2 manifest:Video

- md:Description (Video Dynamic Range)
- manifest:ContainerLocation (File Path or Name)
- manifest:Hash method="MD5" (Checksum)

11.3 manifest:Subtitle

- manifest:ContainerLocation (File Path or Name)
- manifest:Hash method="MD5" (Checksum)

11.4 manifest:Ancillary

- md:BaseTrackID
- manifest:ContainerLocation (File Path or Name)
- manifest:Hash method="MD5" (Checksum)

If a metadata update is performed for any of the above Inventory track attributes without supplying the corresponding asset within the resources folder, the supplemental package delivery will be rejected due to the following error: “Some files found in manifest are missing from delivered package.”

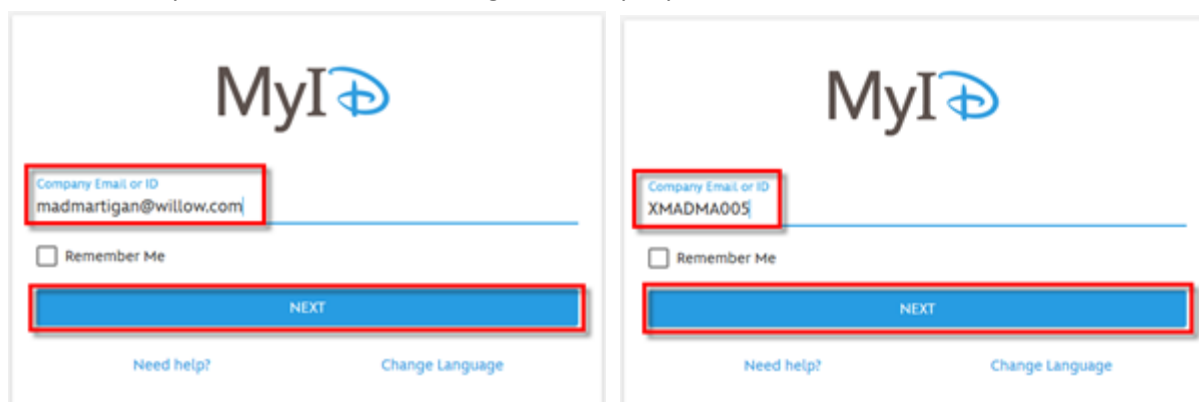
12 Appendix D - Support

12.1 Support Overview:

Should you have any issues with Mobius, MediaMonorial, or the Single Ingest Pipeline, please use the TWDC Support Portal for further assistance.

Step 1: Login with Disney MyID

- The following link will take you to the TWDC Support Portal:
 - <https://support.twdc.technology/>
- Enter your e-mail address or assigned Disney MyID and click Next



The image displays two side-by-side screenshots of the Disney MyID login interface. Both screens feature the 'MyID' logo at the top. The left screen shows the 'Company Email or ID' field populated with 'madmartigan@willow.com'. The right screen shows the same field populated with the MyID 'XMADMA005'. Below the input field on both screens is a 'Remember Me' checkbox and a prominent blue 'NEXT' button. At the bottom of each screen, there are two links: 'Need help?' and 'Change Language'.

- If you have forgotten your MyID or Password, click on **Need help?** and follow the Disney MyID instructions to locate your MyID or reset your MyID password.
- If you do not have a Disney MyID or your existing Disney MyID has expired, for sponsorship, you will need to reach out to your Disney+ Vendor Onboarding contact, **William Bradley**:
William.Bradley@disney.com.

Step 2: Search for the product you need supported

- Enter the name of the product you need support for:
 - SIP (Single Ingest Pipeline)
 - Mobius
 - ReView
 - Madmartigan
 - DOT
 - Wonderland

Step 3: Create and Submit a Ticket

- Answer the questions in the ticket creation wizard providing as much detail as possible.
 - Include links to URLs
 - Attach screenshots or documents
 - Explain reproduction steps

- Take a moment to verify the Priority of your issue to ensure the correct level of support has been assigned. If the level of support is too high, you can drop your ticket from **Critical** -> **Major** or from **Major** -> **Minor**. If the level of support is too low, you can increase your ticket from **Minor** -> **Major** or from **Major** -> **Critical**. Helping to ensure the Priority is set correctly will help determine response time and if on-call support resources need to be contacted.
 - **Critical** – Issue needs to be resolved within 4-6 hours as high priority packages are currently impacted.
 - **Major** – Issue needs to be resolved within 1-2 business days as packages are currently impacted, but none of the packages are high priority at this time.
 - **Minor** – Issue needs to be addressed, but is not impacting current deliveries.
- Existing issues can be update and tracked both within the TWDC Support Portal and via e-mail.

* Please use Critical support only when necessary.

13 Appendix E - Pre-Flight Madmartigan Validator Integration (Optional)

13.1 Pre-Flight Madmartigan API Overview

If you are creating or staging your Disney+ and Hotstar packages in an S3 bucket that you can provide read access to Madmartigan, you can take advantage of a Pre-Flight validation of your packages on your storage prior to initiating the Single Ingest Pipeline to deliver the content to Disney+ or Hotstar. You need to pass the Platform parameter in your call when validating packages for Disney+ or Hotstar to ensure the correct validations are run based on which platform the content is intended for.

13.2 Environments

You will have access to the following environments to integrate with the SIP Madmartigan Validator API:

- **Staging (stg)**
- **Production (prd)**

Staging

- **Oauth2 endpoint:** <https://auth-madmartigan.fulfillment.cpe.dtcistg.technology/oauth2/token>
- **API endpoint:** <https://api-madmartigan.fulfillment.cpe.dtcistg.technology/>

```
Get Job : /getJob?id=<<jobId>>
Submitjob : /submitJob
```

Production

- **Oauth2 endpoint:** <https://auth-madmartigan.fulfillment.cpe.dtc.technology/oauth2/token>
- **API endpoint:** <https://api-madmartigan.fulfillment.cpe.dtc.technology>

```
Get Job : /getJob?id=<<jobId>>
Submitjob : /submitJob
```

- **Request Payload for SubmitJob:**

```
Get Job : /getJob?id=<<jobId>>
Submitjob : /submitJob
```

13.3 Madmartigan API

The following steps outline how to run a job to validate a sample package by making an API call.

- To create a validation job on the validator service STAGING environment, and in our example, you are the vendor named: DisneyPackaging.
- Prior to being able to run a validator job, you will need Aspera access to your S3 bucket and Madmartigan credentials to be able to submit a Madmartigan Validator job.
- Note: Madmartigan credentials will be shared securely during the onboarding process.

- Don't forget to update the bucket name and endpoints once you start using your staging or production environments.

Get an authorization token:

- The below will give you the token to submit the Madmartigan Validation job.
- The token will be valid for 1 hour and can be renewed.

```
TOKEN=$(curl -s <<Auth_URL_FOR_TOKEN>> -d grant_type=client_credentials -d client_id=<<client_id>> -d client_secret=<<client_secret>> scope=taskmanager-api/submitJob taskmanager-api/getJob| jq -r .access_token)
```

Create a Madmartigan Validation job:

- There are nine parameter (4 required / 5 optional):

Parameter	Description	Example	Required
priority	This field will decide the priority of the job to be processed before it's been dispatched to the task executor. Default is NORMAL. * Not yet enabled in Madmartigan	Accepted Values: LOW, NORMAL, HIGH Default: NORMAL	No
submittedBy	This field is governed by a controlled vocabulary and once established with the Disney+ Madmartigan Validator, must be used when submitting the job.	DisneyPackaging	Yes
Platform	Declares the platform the package you are validating is intended for so that the correct validations can be run based on the Platform Profile.	Disney+ Hotstar	Yes

correlatedId	This field is for the relational ID that can be referred to by the vendor in their workflow. * Not yet available in Madmartigan	DisneyPackaging 20191029121123_6185-4F6A-46E0-4162-9290-X	No
sessionId	Unique Identifier for Internal reference	GUID	No
callbackUrl	URL for response to be sent so that the consumer will get the update of Validation once the job has COMPLETED or FAILED (Refer to Response Payload)	JSON Response (refer to the response payload)	No
label	This field is used as a label to identify the package. Best practice is to use the Submitted By and Package Name.	Disney Packaging 20191029121123_6185-4F6A-46E0-4162-9290-X	Yes
inputs	block	block	Yes
manifest	This field will have the URL for the MMC.xml	s3://<<bucketname>>/<<TIMESTAMP_L2EIDR>>/<<L2EIDR>>.xml	Yes

ignoreMissingResources	The default is false. When delivering a complete package (i.e., all the assets cited in the manifest should be present in the resources folder of the package), set to false. The Validator will then raise an error if one or more assets are not found in the resources folder. For partial packages (for example, perhaps just delivering additional audio and subs), set to true. This will skip the validation that ensures all referenced assets within the MMC are present in the resources folder, since only the additional or replacement assets are being delivered.	true or false Default: false	No
------------------------	--	--	----

- **Example Validation Job:**

```
curl -X POST https://uu1b72be0a.execute-api.us-west-2.amazonaws.com/stg/submitJob' \
--header 'Authorization: Bearer $TOKEN' \
--data-raw '{
  "submittedBy": "VendorName",
  "inputs": {
    "manifest": "s3://<<bucketname>>/<<TIMESTAMP_L2EIDR>>/<<L2EIDR>>.xml", "ignoreMissingResources": false
  }
}
```

- **Example Validation Job Response:**

```
"5f04fa26c063260085b787e"
```

- Response will be a JobID (Alpha Numeric Text) as shown above.

Poll the job / Get Job Detail:

- Once the job is created you can start polling it with job ID.

```
curl -s -H "Authorization: Bearer $TOKEN"
<<URL_FOR_GETJOB>>/getJob?id=<<jobId>> | jq -r .outputs.validationResult.valid
```

- The status field will enter an “IN_PROGRESS” status. When the job completes, the status will either be “COMPLETED” or “FAILED”. Once the status is returned as COMPLETED OR FAILED, you can retrieve the validationResult from the outputs section of the job object.
 - outputs.validationResult.valid will be returning a Boolean indicating validation success (true) or failed (false)

- **Response Payload (Get Job Detail)**

```
{
  "outputs": {
    "validationResult": {
      "valid": true,
      "details": [
        {
          "file": null,
          "level": "WARNING",
          "message": "ID uses scheme 'org', SSID format will not be verified",
          "validator": "VALIDATE_MDDF",
          "key": null,
          "value": null
        },
        {
          "file":
"s3://XXXX-us-west-2-madmartigan/20191029121123_6185-4F6A-46E0-4162-9290-X/resources/Movie_SUB_SDH_23_EN
G_178.ttml ",
          "level": "WARNING",
          "message": "Element style size should be 1px is black 4%",
          "validator": "VALIDATE_TTML",
          "key": null,
          "value": null
        },
        {
          "file":
"s3://XXX-us-west-2-madmartigan/20191029121123_6185-4F6A-46E0-4162-9290-X/resources/Movie_SUB_NORMAL_23_
LAS_178.ttml ",
          "level": "WARNING",
          "message": "Element style size should be 1px is black 4%",
          "validator": "VALIDATE_TTML",
          "key": null,
          "value": null
        },
        {
          "file":
"s3://XXXX-us-west-2-madmartigan/20191029121123_6185-4F6A-46E0-4162-9290-X/resources/Movie_SUB_FORCE_23_
LAS_178.ttml",
          "level": "WARNING",
          "message": "Element style size should be 1px is black 4%",
          "validator": "VALIDATE_TTML",
          "key": null,
          "value": null
        },
        {
          "file":
"s3://XXXX-us-west-2-madmartigan/20191029121123_6185-4F6A-46E0-4162-9290-X/resources/Movie_SUB_NORMAL_23_
FRP_178.ttml ",
```

```

        "level": "WARNING",
        "message": "Element style size should be 1px is black 4%",
        "validator": "VALIDATE_TTML",
        "key": null,
        "value": null
    },
    {
        "file":
"s3://XXXX-us-west-2-madmartigan/20191029121123_6185-4F6A-46E0-4162-9290-X/resources/Movie_SUB_FORCE_23_
FRP_178.ttml ",
        "level": "WARNING",
        "message": "Element style size should be 1px is black 4%",
        "validator": "VALIDATE_TTML",
        "key": null,
        "value": null
    }
]
}
},
"inputs": {
    "ignoreMissingResources": true,
    "manifest":
"s3://XXXX-us-west-2-madmartigan/20191029121123_6185-4F6A-46E0-4162-9290-X/6185-4F6A-46E0-4162-9290-X.xml"
},
"createTime": "2020-06-22T16:26:12.952Z",
"createdBy": "Dev-QA ",
"progress": null,
"label": null,
"startTime": "2020-06-22T16:26:38.175Z",
"endTime": "2020-06-22T16:27:21.981Z",
"id": "5ef0dba431a7e40091dcab4",
"status": "COMPLETED"
}

```

- Response Payload (JOB IN PROGRESS or QUEUED)

```

{
    "id": "5f0635e2d73d45008bc96f6",
    "createTime": "2020-07-08T21:08:50.978Z",
    "createdBy": "test",
    "inputs": {
        "ignoreMissingResources": true,
        "manifest":
"s3://XXXX-us-west-2-madmartigan/20200702121123_E5F6-8F09-E692-F13B-3676-7/E5F6-8F09-E692-F13B-3676-7.xml"
    },
    "label": null,
    "status": "IN_PROGRESS"
}
}

```

14 Appendix F - Pre-Flight Avail Status API Integration (Optional - Disney+ Only)

14.1 Pre-Flight Avail Status API Overview

Background

Within the Single Ingest Pipeline, any packages that do not have a corresponding Avail received by Disney+ are gated. As a result, you may submit any packages ready for delivery to Disney+, regardless of Avail status. Once the Avail has been received, SIP will ungate the package and it will finish delivering to Disney+.

If you would like to verify the presence of an Avail for the ALID of the package prior to sending via Single Ingest Pipeline to know if your package will be gated, you can use this Pre-Flight Avail Status API.

14.2 Environments

You will have access to the following environments to integrate with the Disney+ Avail Status API:

- **Staging (stg)**
- **Production (prd)**

To implement, you will need the API endpoint and the client credentials to access and check the avails status for any package.

Staging

- **OAuth2 endpoint:** <https://auth-api.fulfillment.cpe.dtcistg.technology/oauth2/token>
- **Scope=** microservices-api/queryAvail (scope for OAuth)
- **API endpoint:**
https://api.fulfillment.cpe.dtcistg.technology/queryAvail?<<QUARY_PARAM_CONTENT_ID_OR_ALID>>

Production

- **OAuth2 endpoint:** <https://auth-api.fulfillment.cpe.dtc.technology/oauth2/token>
- **Scope=** microservices-api/queryAvail (scope for OAuth)
- **API endpoint:**
https://api.fulfillment.cpe.dtc.technology/queryAvail?<<QUARY_PARAM_CONTENT_ID_OR_ALID>>

Query Param (Sample):

```
contentId=org:disney.com:radar:122905  
or  
alid=md:alid:eidr-x:69E4-9DD3-0B12-0F46-06E3-0
```

14.3 Avail Status API

The following steps outline how to obtain avail status for the package by making an API call.

- Please note:
 - Avail Status API credentials will be shared securely during the onboarding process.
 - Don't forget to update endpoints once you start using your staging or production environments.
 - Below is sample code to access avail status API.
 - ***If you are delivering an AV package to Disney+, please use the ALID when querying for Avail Status.***

Get an authorization token:

- The below will give you the token to access the Avail Status API.
- The token will be valid for 1 hour and can be renewed.
- Provide the scope: **microservices-api/queryAvail**

```
TOKEN=$(curl -s <<OAuth_URL_FOR_TOKEN>> -d grant_type=client_credentials -d
client_id=<<client_id>> -d client_secret=<<client_secret>> scope=
microservices-api/queryAvail
| jq -r .access_token)
```

Get Avail Status:

- **Example Avail Status Job:**

```
curl -X GET <<API_END_POINT>> / queryAvail?alid=md:alid:eidr-x:69E4-9DD3-0B12-0F46-06E3-0' \
--header 'Authorization: Bearer $TOKEN' \
```

- **Example Avail Status Response:**

- The response provides the status of the Disney+ Avail for that specific Content ID or ALID.
- If the Content ID or ALID is **availed**, the **hasAvail** will return a value of **“true”**

```
{
  "hasAvail": true,
  "numberOfAvails": 1
}
```

- If the Content ID or ALID is **NOT availed**, the **hasAvail** will return a value of **“false”**

```
{
  "hasAvail": false,
  "numberOfAvails": 0
}
```

- The numberOfAvails is informational only and can be ignored for the purposes of Avail Status.

15 Appendix G - MMC Retrieval API

15.1 MMC Retrieval API Overview

Background

The existing MMC Retrieval API allows you to submit an ALID (EIDR L2) in order to retrieve the latest successfully ingested MMC for the Disney+ platform. The latest enhancements to the MMC Retrieval API provide the ability to retrieve the latest MMC from either Disney+ or Hotstar, by using the dedicated endpoint for each platform.

- [getLatestMmc/hotstar?id=](#)
- [getLatestMmc/disney_plus?id=](#)

The SIP MMC Retrieval API is also leveraged within SIP Control when downloading the latest MMC for either Disney+ or Hotstar. The SIP MMC Retrieval API takes into account any in-flight packages for both Disney+ and Hotstar. If you request an MMC for an ALID for a Platform that currently has an in-flight package in SIP, you will not be provided the latest MMC, and will instead be provided a message stating that an in-flight package is currently in process. If there are no in-flight packages for that ALID, then an MMC will be provided. If there are no matches for the ALID provided, you will receive an error regarding the ALID not existing.

15.2 Environments

You will have access to the following environments to integrate with the SIP MMC Retrieval API:

- **Staging (stg)**
- **Production (prd)**

To implement, you will need the API endpoint and the client credentials to access and get latest MMC for an ALID.

Note: Avails Status API client credentials can be used for authenticating & authorizing this API

Staging

- **OAuth2 endpoint:** <https://auth-api.fulfillment.cpe.dtcistg.technology/oauth2/token>
- **Scope=** `microservices-api/getLatestMmc` (scope for OAuth)
- **API endpoints:**
 - https://api.fulfillment.cpe.dtcistg.technology/getLatestMmc?id=<<QUARY_PARAM_EIDRL2>>
 - https://api.fulfillment.cpe.dtcistg.technology/getLatestMmc/hotstar?id=<<QUARY_PARAM_EIDRL2>>
 - https://api.fulfillment.cpe.dtcistg.technology/getLatestMmc/disney_plus?id=<<QUARY_PARAM_EIDRL2>>

Production

- **OAuth2 endpoint:** <https://auth-api.fulfillment.cpe.dtc.technology/oauth2/token>
- **Scope=** `microservices-api/getLatestMmc` (scope for OAuth)
- **API endpoints:**
 - https://api.fulfillment.cpe.dtc.technology/getLatestMmc?id=<<QUARY_PARAM_EIDRL2>>
 - https://api.fulfillment.cpe.dtc.technology/getLatestMmc/hotstar?id=<<QUARY_PARAM_EIDRL2>>
 - https://api.fulfillment.cpe.dtc.technology/getLatestMmc/disney_plus?id=<<QUARY_PARAM_EIDRL2>>

15.3 Query Param (Sample)

```
id=CE50-70B2-501F-CF77-9DB6-7
```

15.4 MMC Retrieval API

The following steps outline how to obtain the latest MMC for an ALID (L2 EIDR) by making an API call.

- Please note:
 - Avail Status API credentials can be used for authenticating & authorizing this API.
 - Don't forget to update endpoints once you start using your staging or production environments.
 - Below is sample code to access MMC Retrieval API.

Get an authorization token:

- The below will give you the token to access the MMC Retrieval API.
- The token will be valid for 1 hour and can be renewed.
- Provide the scope: `microservices-api/getLatestMmc`

```
TOKEN=$(curl -s <<OAuth_URL_FOR_TOKEN>> -d grant_type=client_credentials -d  
client_id=<<client_id>> -d client_secret=<<client_secret>> scope=  
microservices-api/getLatestMmc  
| jq -r .access_token)
```

Get Status:

- **Example MMC Retrieval Job:**

```
curl -X GET <<API_END_POINT>> /getLatestMmc?id=69E4-9DD3-0B12-0F46-06E3-0 \  
--header 'Authorization: Bearer $TOKEN' \  

```

- **Example MMC Retrieval Responses:**
 - The response provides the latest successfully ingested MMC for the ALID provided.
 - Below are HTTP Response code along with Reasoning.

200 - Successful latest ingested MMC found

503 - For inflight packages

```
<error>
  <errorCode>503</errorCode>
  <errorReason> Ingesting in process for <<ALID>> please try again after sometime
</errorReason>
</error>
```

404 - If no MMC for ID is found

```
<error>
  <errorCode>404</errorCode>
  <errorReason> No ingested package for for id <<ALID>> </errorReason>
</error>
```

500 - For any internal service errors (Runtime Exceptions or Unknown Exceptions with the exception message)

```
<error>
  <errorCode>500</errorCode>
  <errorReason> {Exception Message} </errorReason>
</error>
```

400 - For request missing parameters

```
<error>
  <errorCode>400</errorCode>
  <errorReason> No query parameters set </errorReason>
</error>
```

or

```
<error>
  <errorCode>400</errorCode>
  <errorReason> Missing [id] </errorReason>
</error>
```

16 Appendix H - Pre-Flight MMC Validation API

16.1 Pre-Flight MMC Validation API Overview

Background

Many errors that are caught after uploading large packages with content are MMC related. The Pre-Flight MMC Validation API provide the packaging system the ability to validate the MMC prior to submitting a package to SIP for both Disney+ and Hotstar.

- [validateMmc/disney_plus](#)
- [validateMmc/hotstar](#)

This pre-flight check will not catch asset related issues, such as duration, frame rate, channel config, etc... Leveraging the existing Component UI, these types of checks can be run locally prior to upload. The Pre-Flight MMC validation API will catch issues related to the MMC so that they can be remediated prior to submitting a job to SIP to avoid lengthy transfer times during remediation after the fact.

16.2 Environments

You will have access to the following environments to integrate with the SIP Pre-Flight MMC Validation API:

- **Staging (stg)**
- **Production (prd)**

To implement, you will need the API endpoint and the client credentials to access and validate the MMC

Note: Avails Status API client credentials can be used for authenticating & authorizing this API

Staging

- **OAuth2 endpoint:** <https://auth-api.fulfillment.cpe.dtcistg.technology/oauth2/token>
- **Scope=** [microservices-api/validateMmc](#) (scope for OAuth)
- **API endpoints:**
 - <https://api.fulfillment.cpe.dtcistg.technology/validateMmc>
 - https://api.fulfillment.cpe.dtcistg.technology/validateMmc/disney_plus
 - <https://api.fulfillment.cpe.dtcistg.technology/validateMmc/hotstar>

Production

- **OAuth2 endpoint:** <https://auth-api.fulfillment.cpe.dtc.technology/oauth2/token>
- **Scope=** [microservices-api/validateMmc](#) (scope for OAuth)
- **API endpoints:**
 - <https://api.fulfillment.cpe.dtc.technology/validateMmc>
 - https://api.fulfillment.cpe.dtc.technology/validateMmc/disney_plus

- <https://api.fulfillment.cpe.dtc.technology/validateMmc/hotstar>

16.3 MMC Validation API

The following steps outline how to validate MMC for a package by making an API call.

- Please note:
 - Avail Status API credentials can be used for authenticating & authorizing this API.
 - Don't forget to update endpoints once you start using your staging or production environments.
 - Below is sample code to access validateMmc API.

Get an authorization token:

- The below will give you the token to access the validateMmc API.
- The token will be valid for 1 hour and can be renewed.
- Provide the scope: **microservices-api/validateMmc**

```
TOKEN=$(curl -s <<OAuth_URL_FOR_TOKEN>> -d grant_type=client_credentials -d
client_id=<<client_id>> -d client_secret=<<client_secret>> scope=
microservices-api/validateMmc | jq -r .access_token)
```

Validate MMC:

- **Example MMC Validation Job:**

```
curl -X POST <<API_END_POINT>> /validateMmc \
--header 'Authorization: Bearer $TOKEN' \ -d '<<MMC XML String>>'
```

- **validateMmc Response:**
 - The response will identify if the MMC is valid by returning a true/false attribute. The “level” within the response will either be a warning or error, just as the SIP workflow returns. Errors MUST be remediated prior to sending the package, or else the MMC will fail once the package is received in SIP. Warnings are informational and you may want to address them or just be aware of them, but they will not result in a failed delivery.

```
{
  "status": "COMPLETED",
  "valid": true,
  "details": [
    {
      "level": "WARNING",
      "message": "Pixel Aspect Ratio not declared within the Inventory for Corresponding
VideoTrackID and per Disney+ best practices should be",
      "validator": "VALIDATE_MMC",
      "key": "manifest:MediaManifest, manifest:Inventory, manifest:Video, md:Picture,
md:PixelAspect",
```

```

    "value": null,
    "rule": null
  },
  {
    "level": "WARNING",
    "message": "Pixel Aspect Ratio not declared within the Inventory for Corresponding
VideoTrackID and per Disney+ best practices should be",
    "validator": "VALIDATE_MMC",
    "key": "manifest:MediaManifest, manifest:Inventory, manifest:Video, md:Picture,
md:PixelAspect",
    "value": null,
    "rule": null
  },
  {
    "level": "WARNING",
    "message": "Pixel Aspect Ratio not declared within the Inventory for Corresponding
VideoTrackID and per Disney+ best practices should be",
    "validator": "VALIDATE_MMC",
    "key": "manifest:MediaManifest, manifest:Inventory, manifest:Video, md:Picture,
md:PixelAspect",
    "value": null,
    "rule": null
  }
]
}

```