A SHORT GUIDE TO IDENTIFIERS FOR THE DIGITAL SUPPLY CHAIN

Digital supply chain workflows are moving steadily toward full automation. Standardization of digital Avails through broad adoption of EMA Avails version 1.6 has been a significant milestone in advancement of a standard specification for delivery of Avails from studios to digital platforms. Increasing adoption of Media Manifest Core (MMC) and Media Entertainment Core (MEC) is linking workflows for Avails, fulfillment and metadata delivery. A key next step is to streamline and automate the connections between those workflows. That next step is enabled by two new ID concepts introduced in EMA Avails 1.7—ALID and ContentID—which connect the EMA Avails, MMC and MEC specifications.

ALID and ContentID, together with EIDR, form the three foundational ID concepts in Avails 1.7.

- The ALID* identifies the asset or set of assets that are being availed. It is used to gather up all the bits and pieces that must be provided to a consumer to complete a transaction. It also connects the Avail to fulfillment workflows, identifying in the MMC the experience delivered to the consumer.
- The ContentID is a reference to metadata for that same asset or set of assets. It identifies the consumer-facing metadata about what the Avail is offering for sale, and it connects the Avail to the MEC metadata identified inside of an MMC package, which facilitates metadata delivery for that specific asset or set of assets.
- In contrast to both, an EIDR ID identifies the underlying film or show that is being availed, either by itself or in conjunction with other content. It can be looked up and validated against an industry registry of content, and as an external reference ID, it can link distribution workflows that otherwise would be entirely disconnected.

This document is a summary of how each of these three IDs is used in the digital supply chain. It explains key characteristics of each identifier, the roles each is intended to serve, and the interconnections between them. It also provides examples of how to construct ALIDs and ContentIDs from other preexisting IDs, such as an internal house ID or EIDR ID, as well as best practices and guidance for a few common use cases.

EIDR IDENTIFIES CONTENT

An EIDR ID identifies a specific movie or show of all types and groupings, e.g., film, TV series, season, episode, compilations, etc. It also identifies variations of the specific content, from the broad to the

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* ALID is the chosen acronym for Logical Asset Identifier.

specific, e.g., a single episode as a creative work (Abstraction), a particular edit of an episode (Edit), or a particular encoding of an edit (Manifestation).

EIDR IDs are used across multiple workflows, including theatrical, digital, broadcast, etc. They are external reference IDs that are registered in a public database according to industry best practices for different types of content and use cases (e.g., miniseries).

In a digital supply chain context, EIDR identifies the underlying content (or intellectual property) that is being availed, either by itself or in conjunction with other content or related material. It provides a connection between Avails or assets that refer to the same piece of content, enabling reuse and mapping of common assets that synch to the same content. It is the only ID in the digital supply chain that can be looked up and validated against an industry registry of content for QC purposes. The built-in hierarchy in the EIDR data model also enables automatic roll-ups of content from child IDs to parent IDs for reporting or other purposes, e.g., episodes rolling up into seasons and series, edits rolling up into parent films or episodes.

More generally, EIDR IDs can provide a link between connected distribution workflows and disconnected workflows, both for digital supply chain and other windows of distribution (e.g., third-party metadata delivery, search and recommendation engines, non-standard fulfillment deliveries, connections between theatrical and home entertainment windows, physical and digital, etc.).

An EIDR ID looks like the following: 10.5240/5AD3-0EA3-A199-8174-9328-2.

The "10.5240" is a prefix identifying the ID as part of the EIDR registry, and "5AD3-0EA3-A199-8174-9328-2" is the unique number assigned to the content in the registry.[†]

In the context of a film Avail, EIDR IDs are typically used for the following fields:

- TitleID is the Abstraction (Title) level EIDR ID, sometimes referred to as Level 1.
- EditID is the Performance (Edit) level EIDR ID, sometimes referred to as Level 2.

For a television avail:

- SeriesID is the EIDR ID for the Series.
- SeasonID is the EIDR ID for the Season, for alternate foreign distribution seasons, it may be an EIDR Compilation.

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† The standard URN format for the same EIDR ID would be: urn:eidr:10.5240:5AD3-0EA3-A199-8174-9328-2. There is also a shortened EIDR-s format for use in some supply chain workflows: eidr-s:5AD3-0EA3-A199-8174-9328-2.

- EpisodeID is the Abstraction (Title) level EIDR ID for the Episode. (The XML Avails specification also supports an Edit ID for the Episode.)

ALID IDENTIFIES WHAT CONTENT IS DELIVERED TO A CONSUMER

An ALID identifies a digital product offering and is used in two different ways. It describes all of the stuff a consumer gets when pressing the buy button (i.e., the entitlement), and it provides a fulfillment reference to the content items that must be delivered to the consumer after the purchase. In both cases it represents the same thing: a way to identify and find all the components of the purchase, e.g., a movie, the right audio and subtitle tracks for the movie in the right languages, the extras that go with the movie, etc.

Unique ALIDs can be assigned for the same piece of content in order to limit the scope of the entitlement to time, territory, and other rights (e.g., download/no-download, bonus/no-bonus, etc.). An ALID is associated with each Avail to specify the scope of the entitlement with particularity.[‡] It then serves as the link between the Avail and the fulfillment instructions contained in the Media Manifest Core (MMC) specification.

One of the sources of confusion around ALIDs is that they must identify the content that is being delivered, even if the content is not yet precisely known. For example, an upcoming movie may be availed months before it is known whether there is one edit, or an original edit and multiple regional ratings edits. That's OK, and really doesn't matter much to the identifier itself. An ALID can be assigned early as a reference, and then the MMC can be updated later in the process to reflect the correct deliverables. As long as the system that turns that identifier into a set of assets to deliver knows what those assets are before it actually has to deliver them, all is well.

The only hard requirement on an ALID is that it must be unique and must not change over the life of an Avail.[§] To avoid the requirement of creating and managing a new independent namespace, an ALID typically should be constructed from a preexisting identifier already available in the supply chain. That preexisting identifier could be an internal house ID or an EIDR ID, whichever is available. The important

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[‡] In contrast, an EIDR identifies the underlying film or show and does not change based on the scope of the entitlement associated with the film or show.

[§] Uniqueness avoids collisions between IDs and dual deliveries for the same avail. Immutability avoids deliveries by downstream systems based on an ALID that cannot be associated with a valid avail.

thing is to choose one from an existing system and follow best practices to construct unique ALIDs in a consistent manner.**

If an asset has a single internal ID, choose that ID. If an asset has multiple internal IDs, decide which one to use and apply that choice consistently across all assets. Since some assets may have IDs from one source or domain, and others from another source, include the source name as part of the ID you use. The information in the ID should be sufficient to ensure uniqueness. For example, some internal systems for episodic content allocate IDs that are unique within a Season but might be repeated in other Seasons; in that case the ID should include both the Season identifier and the episode identifier.

Using the Common Metadata format convention, an ALID based on an internal house ID would be constructed in the following way:

> md:alid:org:studio.com:HouseID:with-bonus
> md:alid:org:studio.com:HouseID:without-bonus

In this example, "md" is the format convention for identifiers; "alid" is the type of identifier; "org:studio.com" is the internal house identifier system; "HouseID" is the ID assigned by the internal house ID system; and "with-bonus" is an extension (or suffix). The extension is entirely up to the creator of the ALID.

Alternatively, if an EIDR is adopted as the basis, the ALID should be constructed using the EIDR-X format, which is made for construction of derivative IDs because it allows combination of a unique EIDR ID with an extension or suffix as in the example above. An ALID based on EIDR-X would be constructed in the following format:

> md:alid:eidr-x:5AD3-0EA3-A199-8174-9328-2:with-bonus
> md:alid:eidr-x:5AD3-0EA3-A199-8174-9328-2:without-bonus

The syntax is the same as in the previous example except that a different identifier scheme ("eidr-x") and ID ("5AD3-0EA3-A199-8174-9328-2") are indicated.

CONTENTID IDENTIFIES METADATA

A ContentID is a metadata reference key. Content can have multiple sets of metadata (different windows, different markets, different bundles, etc.). So a ContentID can point to any set of metadata

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** The naming schemes recommended in this document guarantee uniqueness. As an added bonus, the recommended formatting also makes it possible to know something about the ALID for QC or debugging purposes.

created for a specific purpose or specific asset or set of assets, including a work, a group of works, a series, a season, a theme pack, a work with extras, etc.

In the digital supply chain, the ContentID in the Avails specification serves as a link to the Media Entertainment Core (MEC) specification in order to identify the metadata that should be delivered for a particular Avail. For episodic TV content, there are separate ContentIDs for the Series, Season and Episode.

As with an ALID, a ContentID should be constructed from a preexisting identifier already available in the supply chain. In the majority of cases, the ContentID can be constructed from the same ID as the ALID. Again, that preexisting ID can be a studio-specific ID or an EIDR ID. The key is to choose one and follow best practices to ensure uniqueness and consistency.

A ContentID based on an internal house ID would be constructed in the following way:

    md:cid:org:example.com:theID

Here "md" is again the format convention for identifiers; "cid" is the type of identifier; "org:example.com" is the internal house identifier system; "theID" is the ID assigned by the internal house ID system.

If an EIDR ID is used to construct the ContentID, the EIDR ID should be represented in the standard EIDR URN format. A ContentID based on an EIDR would be constructed in the following format:

    md:cid:eidr:urn:10.5240:5AD3-0EA3-A199-8174-9328-2

The syntax is the same except that the chosen ID becomes an EIDR ID in the standard EIDR URN format: "urn:10.5240:5AD3-0EA3-A199-8174-9328-2". Alternatively, a shortened EIDR-s format can be used instead of the EIDR URN format. The EIDR-s format for a ContentID would look like this:

    md:cid:eidr-s:5AD3-0EA3-A199-8174-9328-2

If multiple versions of metadata are used for the same EIDR ID, an EIDR-X form may be used in the following form:

    md:cid:eidr-x:5AD3-0EA3-A199-8174-9328-2:with-bonus

EACH IDENTIFIER SERVES ITS UNIQUE PURPOSE

Each of the three identifiers points to different things and operates at a different level of granularity.

- EIDR points to the content or the intellectual property that constitutes the underlying films or shows or variations.
- ALID refers to the specific content delivered to a consumer. Sometimes that content includes other things like bonus materials, sometimes it doesn't.

- ContentID refers to metadata for content, but can be unique for specific circumstances (e.g., window-specific artwork, description of exclusive offers, description of bundles, etc.)

In the simplest use cases, there is an easy mapping between the three IDs. For example, if only one piece of content is the subject of an Avail, there will be a one-to-one relationship between an EIDR ID and an ALID. If the content has only one set of metadata, there also will be a one-to-one relationship between the EIDR ID and the ContentID.

However, if any other pieces of content are added into the mix, there will not be a one-to-one relationship. Instead, the ALID will refer to multiple assets that must be delivered to the consumer. For example, if the Avail refers to two films, or three films in a trilogy, or one film plus extras, the ALID must describe all of the assets that go into the consumer delivery. And the ContentID likely will refer to new metadata that describes the combination, not just a single film. Use of the ALID and ContentID creates a consistent framework that works for both the simpler and more complex use cases.

Connecting IP and asset workflows requires glue to connect teams delivering Avails, fulfillment assets, and metadata. Each of the IDs described above provides glue to make those connections, whether between the workflows described in the EMA Avails, MMC, and MEC specifications, or between those workflows and other disconnected processes and workflows. Together they comprise a core set of identifiers to enable more automation through one set of interconnected specifications for the digital supply chain.