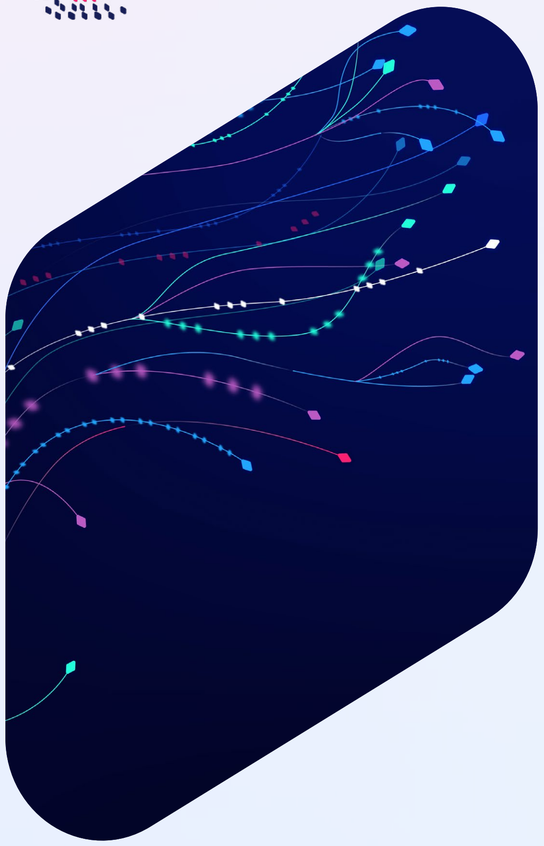
# TV'S IP FUTURE DEMANDS A NEW APPROACH TO METADATA MANAGEMENT

Meta Broadcast

EBOOK

# 1

# CONTENT ITSELF IS NOT ENOUGH



**Content aggregation is the name of the game for all video service providers.** They may disagree with the term aggregation, but whether they create the content themselves or licence it from a third party, they are aggregating and presenting content to their subscribers. Their goal is simple. Attract and retain subscribers to drive revenue (and profits) via subscriptions, advertising or one-off transactions.

The challenge lies in aggregating a sticky catalogue of content and helping consumers find the content they want to watch. In fact, a Videonet survey in 2022 indicates that content discovery is the most valuable value add for content aggregators. If this is the case, why aren't more service providers paying more attention to their descriptive metadata?

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With over 800,000 program titles across linear TV and streaming services, in just the United States alone (according to Nielsen and noting that each title may have multiple series and episodes resulting in millions of records), it becomes clear that content discovery may become the proverbial needle in a haystack if video service providers don't figure out how to optimise their metadata strategy.

> The quality of descriptive TV program information sits at the heart of a TV business. It is fundamental to the user experience, content discovery and recommendation.... When you have accurate data, you also stand the best chance of leveraging it.

**Janet Greco.**
Fall 2019 OTT
Exec Magazine

# METADATA – THE BLACK GOLD OF THE MEDIA INDUSTRY

**Today's media titans are persistently developing content to entertain, educate and inform consumers.** Their value is measured in terms of immediate impact and long-term appeal. Audience response can drive short-term success, but lifetime value is dependent on more than the content itself. If consumers cannot find the content, its value is  negatively impacted.

Metadata is a necessity for "greasing the wheels" for discovery of video assets. Janet Greco, in the fall 2019 OTT Exec Magazine, presciently stated "The quality of descriptive TV program information sits at the heart of a TV business. It is fundamental to the user experience, content discovery and recommendation.... When you have accurate data, you also stand the best chance of leveraging it." While metadata is used throughout the content supply chain, the use of descriptive metadata is critical to the long term value of any professional video delivery service. Defining the depth and breadth of metadata required to enable video service providers to optimise their content catalogues, means understanding what motivates consumer decision-making.

Just as oil refineries are highly sophisticated industrial facilities transforming crude oil into valuable products used in an array of applications, metadata management is a process of transforming multiple databases of identifiers, descriptors and contextual elements into a unified, consistent data repository used to inform platforms and people.

# HOW WE'RE CONSUMING TV CONTENT

**The options for viewing TV series, movies, concerts, sporting events, news and documentaries are greater than ever.** Whether it's via familiar linear channels or streaming on-demand, the content we want is available someplace. And, even though the technology enabling video delivery continues to evolve, consumers only care that it is convenient. They want to pick the subscription model and consumption device that is best for them - and quickly start to enjoy the content that is appealing to them. They assume the content will be easy to find.

There are 3 dominant ways of consuming professionally produced video programmes. However, each of these options has its own advantages and disadvantages.

## Live or Scheduled Linear

**is the TV format that many of us grew up with.**

The schedule is defined by the broadcaster or pay TV channel. TV shows or movies start and end at specific times. Content is delivered by Pay TV or Free-to-Air services using multicast networks, ensuring that the content is available to viewers at the predefined time.

Viewers may only watch shows at the scheduled times, although options now exist for "catch-up TV" which we will discuss later. On-screen Electronic Program Guides (EPGs) display grids reflecting upcoming schedules for each available channel. These schedules include metadata defined by the format of the EPG. It is usually text reflecting program title, lead cast members, start time, running time and short synopsis.

Content discovery is a combination of channel surfing, scrolling through the EPGs and textual or voice search (depending on the capabilities of the device or service provider).

## On-Demand

**consumption is available through many types of services.**

The most popular sources of on-demand shows and movies are Subscription Video-on-Demand vendors such as Netflix, Disney+ and Amazon Prime Video. These same providers are also introducing Ad-based Video-on-Demand as an alternative business model. The on-demand model is also used by many Pay TV providers to extend the availability of their linear programming for catch-up viewing and is increasing in popularity as consumers combat subscription fatigue.

Viewers have maximum flexibility to decide when, where and how they want to view content selected from a video service provider's content catalogue. Available content is displayed in a user interface comprised of a series of "rails" or "swim lanes". Each of these rails is categorised by genres, watch lists or other criteria such as new releases or suggestions based on viewing history. Metadata displayed typically includes images, trailers and deep links in addition to textual data like that found in linear EPGs. More granular descriptors, such as multiple genres, ratings or reviews, are often used to help subscribers identify content of interest.

Content discovery is achieved in multiple ways. Subscribers can use text-based or voice search; or they can also scroll through the user interface to continue watching a favourite series or discover new programs. Studies have shown that images influence content discovery and can be personalised to appeal to different types of viewers. It is only possible to search for content that exists within the provider's content catalogue.

## Free-Ad-Supported-TV,

**aka FAST channels, are provided by a combination of distinct service providers such as Roku, PlutoTV and Tubi; and smart TV manufacturers such as Samsung, LG or Vizio.**

In all cases, they provide hundreds of free channels that allow viewers to enjoy linear style programming with ads. The channels usually reflect specific themes of pre-programmed content. The content line-up can also include live events. With the ability to create pop-up channels centred around the live event, they can deliver a compelling combination of live and on-demand content appealing to fans.

The first challenge faced by FAST service providers is that of having enough content to enable linear streaming all day, every day. The second and more significant challenge is content discovery. Familiar broadcast channels may or may not exist in a FAST service. Users scroll or search for desired content within the FAST channel user interface which, depending on the service provider, ranges from a traditional EPG layout to a modern user interface with thematic "rails".

# What is the impact of these different types of services?

**On the plus side they represent a vast range of video programs and flexibility in how they can be consumed.** Consumers can no longer complain that they don't have enough choice. However, in overcoming the challenge of watching content when and where they want, a new quandary has arisen – the one of actually discovering the content they want to watch. This is not a new hurdle, but it is one that had been sidelined as other priorities were pursued.

# WITHOUT CONTEXT, DISCOVERY IS MEANINGLESS

**With more content than ever available to consumers, via a range of business models, consumers are struggling to understand where to find the programs they want.** For example, where and how can sports fans watch English Premier League football? For the 2022/2023 season, consumers will need to navigate TV Channels, Sky Sports and BT Sport, as well as NOW TV, Sky Go and Amazon Prime streaming options. While sports presents some unique challenges related to scheduling, the consumer must still be able to search and discover the details for consuming the right game at the right time on the relevant service.

Similarly, metadata is the means of describing a comedy or drama in such a way that the consumer knows that they are selecting the show they really want to watch. The description must help the consumer understand if the programme meets ambiguous goals based on criteria such as length, cast, theme, directing style, mood, etc. Providing this level of context is increasingly important to consumers overwhelmed by the range of available content.

# metadata

[ met-uh-dey-tuh, -dat-uh, -dah-tuh ]

- Information that describes other information in order to help you understand or use it

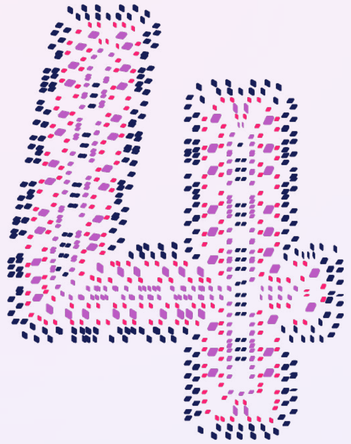
*- In the metadata she found the author and location of the file.*

## METADATA UNCOVERS THE NEEDLE IN THE HAYSTACK

**The power behind scheduling platforms, program guides and UIs is the data that describes the various programs.** This is metadata. The formal definition of metadata is not enlightening. The Oxford English Dictionary says that metadata is data about other data.  A better description is that metadata summarises basic information about data, making finding, working or interacting with it much easier. In the case of video delivery, descriptive metadata, or the data that describes the program, makes it easier for subscribers to find the content they want to watch.

However, as more content has been created and made available to video service providers, the breadth and depth of available metadata has also increased. Yet, it may not all be formatted in the same way. It may not be organised using consistent taxonomies, hierarchies or genres. Each type of metadata describes a different aspect of a specific show, movie or event.

There are many dimensions to metadata that ultimately facilitate monetisation for service providers and discovery for consumers.



# WHERE DOES METADATA COME FROM

**Metadata is created, captured and associated with video assets during every stage of the video supply chain, from production and post-production through packaging, distribution and delivery.**

This data includes structural data about the physical file itself (e.g., format, bit rate, resolution, file size, etc.); business data related to rights management, usage rights and distribution information; and descriptive data that is manually input to provide context about the location, scene-specific information, actors, directors, and more. Unique challenges related to descriptive metadata include its existence in multiple systems within a typical workflow and it's unstructured, freeform style. From its inception, descriptive metadata is difficult to model, store and manage.

While media asset management systems have improved metadata management within the post-production workflow, platforms associating metadata with assets being distributed and delivered to consumers have limitations. Providers of metadata attained via web scraping often face challenges capturing images. Currently, there are no global standards for the format of descriptive metadata. The lack of guidelines leads to inconsistency and challenges as video service providers utilise metadata.

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# METADATA EVERYWHERE, BUT...

**Metadata exists within multiple platforms throughout a service provider's environment.**

It is used to organise and categorise content in ways that help video service providers operate their business more effectively. Consumer perception of value provided, subscriber retention and long-term monetisation are all underpinned by the use of metadata.

### 1. Cataloging:

Metadata is used to classify video assets into different categories such as movies, TV shows, documentaries, etc. In addition, it is important to define genres such as crime, comedy, horror, children. A catalogue should also include additional metadata such as cast, crew, content type, content format, content category and more. The content will have many IDs associated with it. They must be mapped and aligned using taxonomies and hierarchies to understand which programs are associated with which series.

### 2. Search/Content discovery:

Content discovery is dependent on the use of high-quality, relevant metadata that has been associated with each item of content. Consumers search for content based on a very wide set of criteria.  Search engines utilise the indexed, categorised and cleansed metadata to deliver results to the consumer based on their search patterns.

### 3. Recommendations:

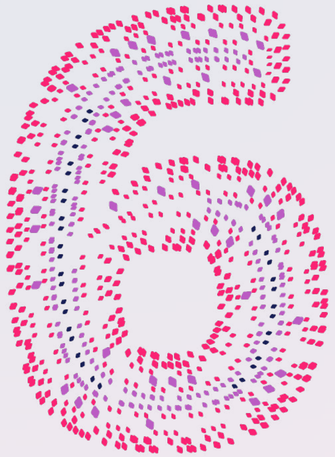
A recommendation engine relies on metadata to build a smart algorithm to promote content to users. It recognises user search and consumption patterns and gives recommendations accordingly. Recommendations help the service provider reveal content that the consumer may not easily find on their own – making their catalogue more valuable. Robust metadata enables providers to recommend titles that are relevant to the users' interest, leading to greater consumption, better engagement, and optimised monetization.

### 4. User Experience:

Metadata plays a significant role to play in the way users interact with linear and on-demand platforms – specifically when they are searching for content and ultimately finding what they were looking for. Providing textual, visual and linked metadata  makes the user experience more intuitive.

**Today, many service providers manage metadata in a siloed manner.**

While it exists in various platforms, there is limited integration across these platforms. For example, enhanced descriptive metadata that could augment consumer engagement may not be visible or available to the platform that could benefit from it. A beneficial approach is one that not only enables aggregation of metadata from various silos into a centralised data repository, but one that also delivers enhanced metadata back to each platform.



# METADATA MANAGEMENT IS THE KEY TO EXPOSING REAL VALUE

**Some of the biggest challenges when ingesting and creating metadata are consistency, organisation, and completeness.** Poor metadata or insufficient metadata management can lead to inaccurate recommendations, inadequate search and discovery and poor platform navigation. No matter how engaging the user interface looks or how sophisticated a platform's recommendation engine is, if the associated metadata isn't good enough, consumers will be frustrated by having irrelevant content suggested to them.

Metadata management is a combination of best-practice processes and technologies that helps businesses manage the data about their content. It allows users of all kinds—business, technical, operational—to search for, identify and understand the data they need to do their jobs. As video service providers expand their content libraries with original and licensed content, delivered in both scheduled and on-demand formats, it is increasingly important for them to aggregate metadata from multiple internal and external sources.

This is a significant challenge as many of their content and business management platforms can only accept one metadata feed.

The key to optimising content libraries is to aggregate and associate different types of metadata with video assets. Each asset is associated with a variety of content identifiers that define the relationship between the files. For example, a series may have many seasons, which has many episodes – each represented as a unique file or asset.  Each episode may have incremental metadata defining original air date, cast details, synopses, reviews, ratings or deep links. Each video service provider will define the metadata they require. However, they will face challenges in acquiring all metadata from one source.

Active metadata management is the continuous analysis of all available data and orchestration of processes to align metadata and identify exceptions between existing data and what is actually required.

# IT'S TIME FOR A MODERN ACTIVE DATA PLATFORM

**An active metadata management platform exists in the cloud, outside the video service providers environment.** Metadata is defined as 'active' if the metadata management platform can automate ubiquitous finding, inventorying, and using of all the different kinds of metadata to create a single source of truth.

Integration with data sources and data destinations is managed via APIs. Metadata workflows are optimised through the use of data orchestration, automated processes and algorithms focused on mapping identifiers, identifying inconsistencies and standardising the overall master metadata repository.

**In short, the platform focuses on:**

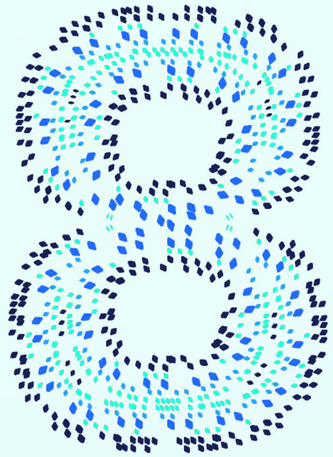
1. **Preparation** includes performing checks for integrity and correctness, applying labels and designations, or enriching new third-party data with existing data sets.

2. **Transformation** refers to converting data into a standard format. For example, the same date can be written in a variety of ways: March 15, 1990; 3/15/90; 15/3/90; etc. During the transformation process, these dates are converted to the same format.

3. **Cleansing** involves locating and correcting (or eliminating) corrupt, inaccurate, duplicated, or outlier data.

4. **Syncing** refers to the continuous process of updating data between data sources and destinations for consistency.

An active metadata platform will ingest and aggregate metadata from multiple sources, orchestrate automated and manual processes to normalise and enrich data, as needed, for distribution. Cloud-based orchestration eliminates silos, making data more accessible to all relevant users and platforms.



# A NEW APPROACH –
## AN ACTIVE METADATA PLATFORM ALIGNED TO SPECIFIC NEEDS

**The benefit of a cloud-based platform is the ability to access only the tools and resources needed to perform specific functions.** When it comes to metadata management, **ATLAS** provides capabilities to address a hierarchy of needs related to metadata management - From the most basic to the more complex.

Metabroadcast provides a range of solutions, all powered by Atlas, to validate, register, consolidate and enrich metadata describing a provider's content assets.

Atlas

### 1. Metadata Audit

**Understanding the quality of existing metadata records is necessary for optimising the value of content libraries.** Auditing the status of a master metadata repository includes:

- Identifying missing or poor images
- Assessing consistency of series hierarchies and genres
- Checking for use of invalid characters or null fields
- Ensuring running times and dates are available and logical
- Validating the presence of relevant IDs

An audit validates the health of the repository, while providing guidance for improving metadata quality – and ultimately the use of metadata throughout various content management platforms.

## 2. Content ID Registry

**Identifying and organising the variety of identifiers associated with each video asset is critical to successful metadata management.** It is especially applicable in scenarios where metadata is aggregated from multiple sources or fragmented data silos.

Merging disparate sets of metadata requires eliminating duplicates and centralising the multiple "unique IDs". Related data can then be viewed in one single location in order to make decisions about how it will be used in other systems.

Automating ID registration and mapping, helps video service provides to create a foundational system of record or 'single source of truth', while also identifying missing or malformed IDs.

## 3. Consolidate Metadata

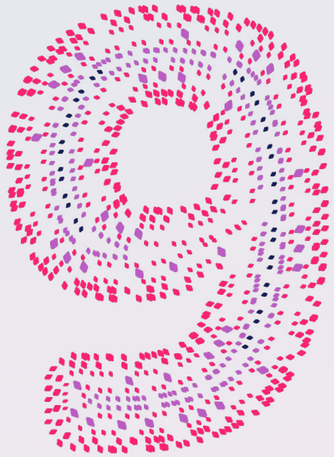
**Aggregating metadata records from different sources creates specific challenges related to taxonomies, hierarchies and genre definition.** Normalising metadata is the systematic grouping of similar values into one common value. This provides greater context and accuracy across all files, resulting in a harmonious master metadata repository.

**ATLAS**, our active metadata management platform, uses automated processes and proprietary algorithms to simplify data normalisation, identify issues and suggest resolutions. The result is a reduction in volumes of duplicate data, improvements in data consistency and quality, and greater confidence in the metadata used across many facets of the modern media enterprise, including platforms used to interact with and engage consumers.

## 4. Enrich Metadata

**Providing context is a strategic goal when it comes to data enrichment. The more granular the metadata describing a program, the more likely consumers will engage with it.** Enriched metadata incorporates more tags and genres, rich data such as images, wider use of deep links, and integration of ratings and reviews. These additional details help consumers to understand the context of a program, while also giving content discovery and recommendation platforms more data with which they can provide more meaningful results.

ATLAS automates the processes to analyse, ingest, aggregate and normalise large volumes of data from public and proprietary sources into a single source of truth.



# ELEVATE THE VALUE OF YOUR METADATA

**Acquiring metadata is not enough. Managing it is the only way to increase the value of growing content catalogues.** Metadata management is a video service provider's secret weapon for engaging their viewers by helping them to identify and enjoy their preferred content with speed and convenience.

IABM's 2022 State of Media Tech Report highlighted convergence, transformation and resilience as key business and tech drivers. We see convergence happening every day as both content created for scheduled and on-demand consumption are streamed to devices including the TV. This convergence of content, business models and underlying technology impacts the metadata describing the video assets and the manner in which it is managed. The metadata itself is undergoing a convergence of sorts as the requirements for metadata from different sources increase and create demand for platforms to simplify the ingest, aggregation and normalisation of metadata in many formats from many sources.

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> Ongoing investment in workflow orchestration and metadata management will leverage the cloud and provide video service providers with flexibilities and efficiencies not previously available.

**As media companies transform their operations to meet the expectations of consumers and investors, they are increasingly looking to the cloud and data.** The cloud business model provides both the flexibility and financial benefits of using cloud-based compute and storage resources. When this is combined with metadata management, both media companies pursuing direct-to-consumer distribution models and video service providers aggregating content are able to transform their content management capabilities, optimise content catalogues and engage consumers in new ways.

Cloud-based platforms across the media supply chain exist thanks to the industry adoption of digital workflows. Ongoing investment in workflow orchestration and metadata management will leverage the cloud and provide video service providers with flexibilities and efficiencies not previously available. Automated processes, machine learning and ultimately artificial intelligence will deliver operational resilience as higher quality metadata repositories enable greater monetization of content libraries.

Metadata is often referred to as a single source of truth for content owners and distributors. Getting to this single source of truth requires commitment, objectivity and attention to detail. It also requires a pragmatic approach. Service providers, large and small, have content catalogues requiring different levels of metadata management. It is our intent to give these providers access to cloud-based metadata management with the flexibility to leverage as much, or as little, capability as needed.

MetaBroadcast

MetaBroadcast is a metadata specialist. We are a trusted provider of high value metadata aggregation services to leading broadcasters, streaming service providers and media organisations. With a reputation for ensuring reliable data integrity, MetaBroadcast earns long-term customer loyalty.

**metabroadcast.com**