



METADATA IS THE NEW BUZZWORD

Metadata is the new buzzword and priority for any business selling, distributing, or delivering video content. As we talk with our customers and prospects, it is clear that they recognise the importance, opportunity, and challenges surrounding their use of descriptive metadata. It is also clear that reducing metadata-related costs is equally important.

Evolving customer-driven use cases such as voice search, content discovery, or centralised, consolidated metadata repositories require high-quality metadata. This does not necessarily require organisations to procure more data, but these use cases do reinforce the importance of good data, forward-thinking technology, and consistent operations.

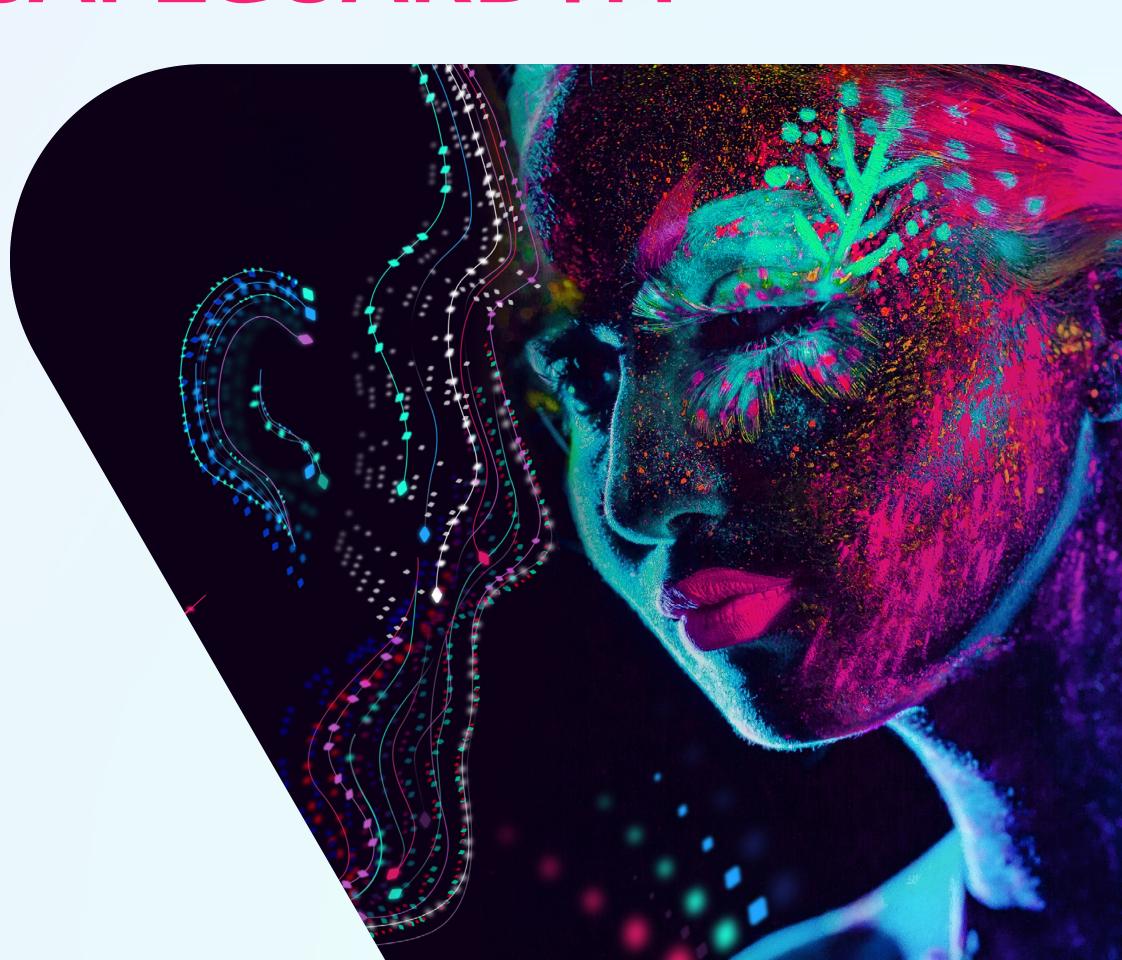


LET'S START WITH ANSWERING ONE KEY QUESTION:

WHAT IS HIGH-QUALITY METADATA AND HOW DO ORGANISATIONS SAFEGUARD IT?

Good metadata provides additional context and information about data that makes it more useful, organised, and discoverable. Good data removes ambiguity, increases data transparency, and helps organisations get more value from their metadata. MetaBroadcast's Atlas platform persistently manages data to ensure a data schema that includes:

- ▶ **Descriptive titles and descriptions** Titles and descriptions should accurately summarise what the data is about and include important keywords to help others find it through searches.
- **Standardised formats** Using consistent formats, schemas, and data types makes processing and analysing metadata from different sources easier.
- **Contextual information** Details like the cast, producer, release date, geographic locations, synopses, images, reviews, or ratings.
- ▶ **Structural markup** Structural metadata formats like XML allow capturing metadata as distinct, labelled data fields which enables automated processing.





Forward-thinking technology leverages existing standardised capabilities for resource management, while identifying opportunities to leverage the efficiencies delivered by machine learning and artificial intelligence. Critical components of a valuable cloud-based metadata management platform include:

- Integration Interfaces Standard protocols for ingesting and publishing metadata between disparate systems and the centralised metadata repository providing all users with access to a consistent set of unified and cleansed data.
- **Metadata Editor** An interface for reviewing, editing, and organising data based on defined metadata schemas.
- **Metadata Repository** A centralised database or repository for storing metadata records and related assets supporting both manual and automated aggregation.
- Search & Discovery Tools Search interfaces, catalogs, and APIs so users can search through metadata and locate relevant assets.

- Taxonomies & Vocabularies Controlled taxonomies, thesauri, and ontologies for standardising and relating metadata terms to enable contextual search and recommendations.
- **Governance Features** Workflows, guidelines, and automated processes for ensuring metadata quality. Machine learning plays a critical role in automating systematic rules to assess and cleanse malformed data.
- **Database Tuning** Structure the database to accelerate data access with strict attention to data security.
- Security & Authorisation Leverage standardised security policies to ensure the integrity of cloud-based platforms. Avoid "bad actors," denial of service, or misuse of the platform.



Consistent Operational Processes eliminate redundant activities and duplicate data purchases while streamlining metadata workflows. Examples of operational best practices include:

- **Establish metadata standards** Define expected schemas, including data formats, types, hierarchy, genres and preferred sources, to ensure consistency and interoperability across all metadata-dependent platforms.
- Create a centralised metadata repository Eliminate data silos and consolidate data from all internal sources. Prioritise external data sources. Individual metadatadependent platforms benefit from consistently formatted data in a Single Source of Truth.
- **Maintain metadata hygiene** Implement workflows to identify incomplete, ambiguous, outdated metadata and take corrective actions through edits, merging records, and master data management techniques.
- ▶ **Enable collaboration** Define role-based access to the metadata repository. Allow different stakeholders like editors, sales teams, or marketers to access, review, or edit metadata through simple interfaces.
- ▶ Monitor metadata usage and performance Track usage metrics around assets, metadata, and taxonomy terms to gain insights related to findability, retrieval, consumption, and monetisation.

Our capabilities are centered around the understanding that descriptive metadata supports content sales, distribution, discovery and consumption. Our experience confirms that the metadata must be accurate and provide a path to operational efficiency, cost savings and improved business performance.

MetaBroadcast provides a robust approach to metadata management. We apply principles and methodologies to ensure that metadata is collected, organised, and utilised systematically and costeffectively. Wherever possible, we promote standardisation.

We are agnostic as to metadata sources and uniquely focused on your data's continuous completeness, accuracy, and consistency.

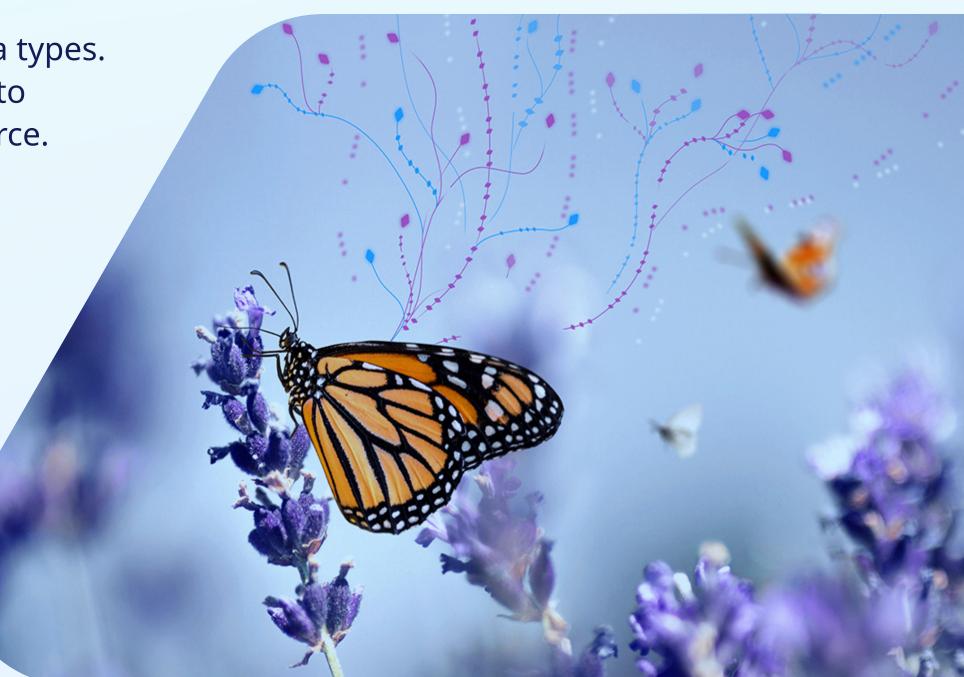


WE START BY STANDARDISING DATA COLLECTION AND CONSOLIDATION

This is where the rubber meets the road. Each media organisation or video service provider must decide what data is most important to them. With the goal of using high-quality, contextual metadata, media organisations must define a metadata schema with their specific use cases in mind. However, many organisations still need to define one consistent, standardised metadata schema for use across all internal platforms.

MetaBroadcast's data schema is extensible, enabling its customers to aggregate various data types. It is flexible enough to support customer-defined and standardised data schemas. It is clear to most organisations that it is challenging to obtain the necessary metadata from a single source. While some metadata providers supply EPG data, others focus on reviews and synopses, and others provide a range of content tags or images.

Our cloud-based active data platform, Atlas, supports a full range of data ingest methods, such as APIs and file transfer. It also leverages AWS Data Exchange to simplify timely and accurate metadata ingest from a variety of metadata providers, including IMDb. MetaBroadcast applies systematic rules-based processes to aggregate data from multiple sources. By standardising best practices based on our real-world customer interactions, Atlas streamlines data ingest, and consolidation. However, simply aggregating data is not enough.





MEDIA ORGANISATIONS NEED ASSURANCE THAT THEIR METADATA IS FIT FOR PURPOSE

When ingesting metadata from multiple sources, processes must be defined to consolidate data into unified content records. These processes include ID mapping, visualising the relationship of records based on brands, titles, episodes or franchises. Our proficiency in understanding what constitutes 'good' or 'bad' metadata contributes to creating rules that allow Atlas to identify malformed data quickly. These rules also orchestrate data cleansing, brand allocation, hierarchy healing, and genre classification.

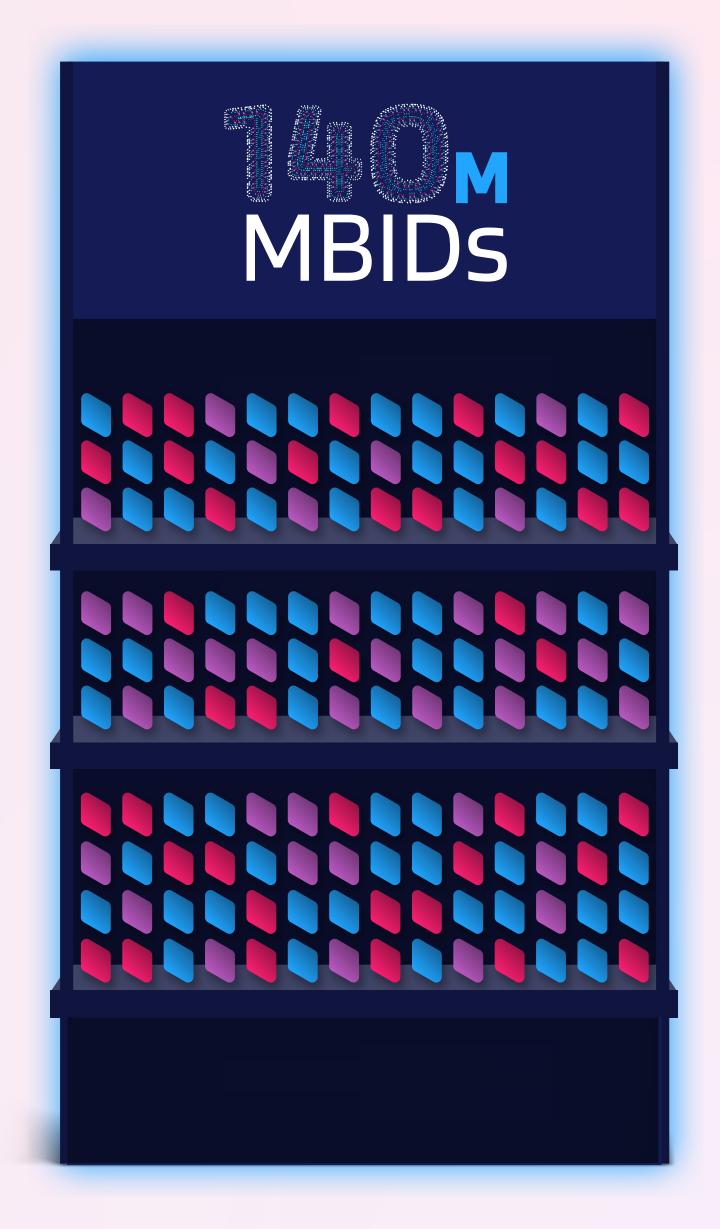


LEVERAGE THE VALUE OF A STANDARDISED REPOSITORY

Our vast ID Registry of MetaBroadcast content IDs (MBIDs) represents over a decade of unifying, matching, and normalising content IDs from major broadcasters, content owners, and metadata providers (e.g., BBC, ITV, PA, EIDR, Gracenote, IMDb, etc.).

The result is a comprehensive metadata repository that has been reviewed, enhanced, and validated by MetaBroadcast and contributing data sources. It represents a standardised set of consolidated metadata that has been cleansed and unified. Brands have been checked and allocated. Hierarchies have been analysed and validated. Most importantly, genres have been reviewed and clarified. The MBID repository, arguably the largest consolidated Content ID map, is our **Single Source of Truth**.

Our unified metadata repository reflects the relevant titles, genres, tags, series, episode numbers, sports data, synopsis, cast and crew, and unique video service provider-defined content IDs. The MetaBroadcast IDs provide a standardised metadata repository that can be leveraged to benchmark a customer's own metadata schema. In other words, *your metadata will be fit for purpose.*







SETTING THE STANDARD FOR METADATA QUALITY CONTROL, ORCHESTRATION AND SECURITY

We invest in the development of technology that delivers the features, scalability and resilience needed for real-time metadata management.

Automation, database tuning, and alerts are critical in validating data quality, facilitating data consolidation, and ensuring access to relevant metadata as needed.

Our metadata expertise enables us to implement rigorous and continuous quality control workflows to validate the accuracy and completeness of metadata. In fact, our typical automated accuracy on complex data models is c.98%. By validating data quality, we help our

customers avoid using bad data. We know that poor data quality can lead to inaccurate insights, misguided decisions, wasted resources, and even reputational damage.

Orchestration of metadata workflows is vital to the aggregation and publishing of high-quality metadata. Leveraging cloud-based tools such as Amazon EventBridge standardises Atlas' interoperability with multiple systems and services in its wider architecture while ensuring scale and agility in reacting to evolving customer requirements.

Our database infrastructure is structured to enable the logical organisation of metadata as well as real-time access to content files. While Atlas runs in the AWS cloud, MetaBroadcast manages its databases, focusing on optimising metadata findability and accessibility by our customers as they interact with their specific data sets.

We utilise a range of distribution and replication approaches, including practical management and ongoing maintenance of the production environment. All our databases operate in clusters for maximum resilience.

Since launch, we have exceeded 99.9% uptime for our customers, giving them consistent access to their centralised, cloud-based metadata repository.



Atlas includes systematic alerts. They start by validating the success or failure of data ingest. In addition, customers can define thresholds as to the type or volume of data to be ingested. Alerts confirm or negate compliance with established thresholds based on hard and soft rules. Upon ingest, systematic rules-based processes identify incomplete, inaccurate, or inconsistent metadata fields, advising users of updates made or conflicts that need attention.

Atlas also incorporates standardised security measures and alerts enabled by our cloud partner, AWS, to ensure platform and data security. AWS Security Hub provides best-practice security checks, aggregates security alerts, and supports automated remediation. In addition, AWS security solutions within the AWS Shared Responsibility Model are used to identify threats and malicious behavior to safeguard against vulnerabilities.

We ensure customer metadata repositories are cleansed, stored and organised in a secure, centralised cloud-based platform - giving all users across an organization access to a *standardised client-defined data schema*.





AN AGNOSTIC APPROACH TO STANDARDISING METADATA MANAGEMENT

MetaBroadcast is agnostic to data sources. We do not sell or provide data. Instead, we partner with leading metadata providers and those identified by our customers to understand the metadata types and formats and preferred methods for ingesting data into our customer-defined data schema. Metadata management is our core competency. Our expertise has guided the development of a platform that processes and consolidates high-integrity metadata for integration into multiple internal workflows.

Metadata quality directly impacts the operational performance of media organisations and video service providers. Our standardised approach to metadata management addresses our customers' goals to:

- **Reduce metadata investment** by consolidating existing data silos, eliminating overpayment and maximising the use of existing metadata that has been unified, cleansed and organised in a systematic and rigorous manner.
- Improve operational efficiency as teams will be more efficient when collaborating thank to consistent guidelines regarding metadata schema, definitions, usage, and updates.
- **Exploit the value of content catalogues** through the use of high-quality, high-integrity metadata for content management, scheduling, promotion, sales, discovery, and more.



Contact us to learn more about how our standardised approach to metadata management can elevate the value of metadata to improve organisational efficiency, maximise content value and improve operating margins.

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MetaBroadcast is a metadata specialist. We are a trusted provider of cloud-based technology automating processes to assess data quality and unify, cleanse, organise and harmonise metadata provided or procured by leading broadcasters, streaming service providers and media organisations. With a reputation for ensuring reliable data integrity, we help our customers attain a single source of truth.

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