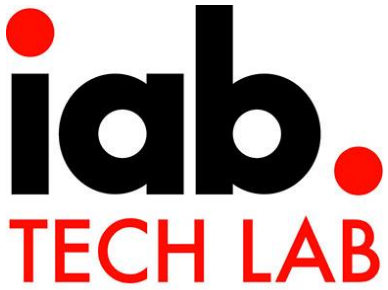

ACIF Validation API

Version 1.0

Draft for Public Comment released December 4, 2024

Please provide feedback on this draft by January 18, 2025. Send your comments, suggestions, and questions to support@iabtechlab.com.

Note to reviewers: Please let us know what questions you have, whether there's anything that will make this spec or the concept easier to use, whether anything is missing, or whether anything should be added.

IAB Technology Lab

About this document
This API spec was initially drafted by Daniel Brackett of Extreme Reach and donated to IAB Tech Lab for further development by the Advanced TV Commit Group to support Tech Lab's Ad Creative ID Framework (ACIF).

Please contact support@iabtechlab.com if you have any questions or comments about this document. This document and other related resources can be found on the IAB Tech Lab website at: iabtechlab.com

IAB Tech Lab Lead:
Katie Stroud, Senior Product Manager

About IAB Tech Lab
The IAB Technology Laboratory (Tech Lab) is a non-profit consortium that engages a member community globally to develop foundational technology and standards that enable growth and trust in the digital media ecosystem. Comprised of digital publishers, ad technology firms, agencies, marketers, and other member companies, IAB Tech Lab focuses on improving the digital advertising supply chain, measurement, and consumer experiences, while promoting responsible use of data. Its work includes the Open Real-Time Bidding (OpenRTB) bidding protocol, ads.txt anti-fraud specification, Open Measurement SDK for viewability and verification, Video Ad Serving Template (VAST), Global Privacy Platform (GPP), and other for a growing suite of products to support advertising technology. Established in 2014, the IAB Tech Lab is headquartered in New York City with staff located remotely across the US and abroad.

Disclaimer

THE STANDARDS, THE SPECIFICATIONS, THE MEASUREMENT GUIDELINES, AND ANY OTHER MATERIALS OR SERVICES PROVIDED TO OR USED BY YOU HEREUNDER (THE "PRODUCTS AND SERVICES") ARE PROVIDED "AS IS" AND "AS AVAILABLE," AND IAB TECHNOLOGY LABORATORY, INC. ("TECH LAB") MAKES NO WARRANTY WITH RESPECT TO THE SAME AND HEREBY DISCLAIMS ANY AND ALL EXPRESS, IMPLIED, OR STATUTORY WARRANTIES, INCLUDING, WITHOUT LIMITATION, ANY WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, AVAILABILITY, ERROR-FREE OR UNINTERRUPTED OPERATION, AND ANY WARRANTIES ARISING FROM A COURSE OF DEALING, COURSE OF PERFORMANCE, OR USAGE OF TARDE. TO THE EXTENT THAT TECH LAB MAY NOT AS A MATTER OF APPLICABLE LAW DISCLAIM ANY IMPLIED WARRANTY, THE SCOPE AND DURATION OF SUCH WARRANTY WILL BE THE MINIMUM PERMITTED UNDER SUCH LAW. THE PRODUCTS AND SERVICES DO NOT CONSTITUTE BUSINESS OR LEGAL ADVICE. TECH LAB DOES NOT WARRANT THAT THE PRODUCTS AND SERVICES PROVIDED TO OR USED BY YOU HEREUNDER SHALL CAUSE YOU AND/OR YOUR PRODUCTS OR SERVICES TO BE IN COMPLIANCE WITH ANY APPLICABLE LAWS, REGULATIONS, OR SELF-REGULATORY FRAMEWORKS, AND YOU ARE SOLELY RESPONSIBLE FOR COMPLIANCE WITH THE SAME, INCLUDING, BUT NOT LIMITED TO, DATA PROTECTION LAWS, SUCH AS THE PERSONAL INFORMATION PROTECTION AND ELECTRONIC DOCUMENTS ACT (CANADA), THE DATA PROTECTION DIRECTIVE (EU), THE E-PRIVACY DIRECTIVE (EU), THE GENERAL DATA PROTECTION REGULATION (EU), AND THE E-PRIVACY REGULATION (EU) AS AND WHEN THEY BECOME EFFECTIVE.

License

F/RAND which means fair, reasonable, and non-discriminatory terms, denoting "a voluntary licensing commitment that standards organizations often request from the owner of an intellectual property right (usually a patent) that is, or may become, essential to practice a technical standard. Put differently, a F/RAND commitment is a voluntary agreement between the standard-setting organization and the holder of standard-essential patents." ~Wikipedia

IAB Technology Lab

Table of Contents

IAB Technology Lab

Executive Summary

As part of the Ad Creative ID Framework (ACIF), the ACIF Validation API specification defines requests to named ad registries for validating ads registered within the named registry using the assigned unique ID.

ACIF was designed to increase ad registration for ad creative in campaigns set up to run in CTV and other TV-like video environments. A key benefit of ad registration is leveraging the assigned unique IDs to validate the ad's registration status for ad decisioning, measurement, and creative reconciliation. This ACIF Validation API automates validation, resulting in an open ecosystem whereby multiple ad registries can interoperate, instead of relying on proprietary API semantics and metadata schemas. The API also supports the retrieval of metadata associated with the ad creative, which can then be used for ad decisioning such as frequency capping, competitive separation, and brand suitability.

Many ad registries already have an API that supports this function, but implementing the ACIF Validation API standardizes validation and creates interoperability that scales the benefits that ACIF offers. This scale supports growth in CTV inventory and innovation in the products offered to buyers.

To bring this scale and growth to the market, ad registration authorities need to implement support for this API. Ad technology platforms can use this API to integrate with participating ad registries and should encourage any ad registry partners to implement support for this API.

Audience

In general, anyone in the CTV and video supply chain who works directly with ad creative as part of campaign set up, execution, and reporting should be familiar with ACIF and at least aware that the ACIF Validation API is being used to validate ad creative for placement.

Beyond the general audience, developers and certain ad ops professionals in the ad tech and ad registration organizations should use this document in the following ways:

Ad Registration Authorities

Developers should use the specifications outlined in this document to make adjustments in their existing API for validation, or to build one if the registry currently does not support validation by API. Business leaders also need to make decisions about whether authentication is required for basic validation and simple metadata and what their business model is for that.. They may also need to decide whether additional metadata will be made available and how it can be used. For example, if detailed metadata can be provided to customers per the registry's business model, can those customers use the supplied metadata to populate their interface with advertiser details to scale how they work with partners who are all working with the same metadata.

Ad Technology Platforms

Developers should use the specifications outlined in this document to integrate their ad receiving and/or ad measurement technology with ad registration authorities to automate ad validation and metadata requests. Beyond validation, developers can also use the validated ID in their decisioning algorithms and reporting operations.

About ACIF

Ad Creative ID Framework (ACIF) encourages buyers to register their ads and supply the assigned unique identifiers as part of the metadata for their ads. The ad technology businesses, publishers, and other parties along the way are also encouraged to validate these unique identifiers (UniversalAdId), and leverage them in their ad decisioning algorithms, reporting, and any other function that is simplified by organizing and using data associated with these unique IDs that represent each ad moving across the CTV and video supply chain.

The framework is patterned loosely after the Internet Domain Name System (DNS). Just as DNS depends on a clear system for uniqueness of resources to promote Internet interoperability, the advertising supply chain needs a clear system for uniquely identifying ads that drive the economy for quality content development. ACIF is that system.

The goal of ACIF is to ensure global uniqueness of identifiers across registries. The ACIF Validation API promotes interoperability between parties in the ecosystem so that campaign execution and reporting can be performed with greater accuracy and efficiency.

API Overview

The ACIF Validation API is essentially an HTTP from one party to an ad registry that signals whether a provided unique ID exists in the registry's system. A registered ad should supply a unique ID along with the root domain of the registry that issued the ID. Together, these two pieces of metadata represent a UniversalAdId–a term first introduced with the release of VAST 4. Given the root domain of the ad registry, the requesting party has the needed information on where to send the request for validation. This information can be looked up in the ACIF Directory in IAB Tech Lab's Tool Portal. For more information on the ACIF Directory, review the ACIF documentation under the section, "ACIF Directory."

Once validated, the ad registry returns a minimum set of metadata to define the Advertiser, Brand, Language, and Duration. Ad registries may provide additional metadata at their discretion upon request. Ask your ad registry partners about additional metadata they may provide and how to access it.

Terminology

The following terms are used throughout this document specifically in the context of ACIF and this specification.

Term	Definition
Universal Ad Identifier (UniversalAdId)	A globally unique ad identification code, issued by a recognized Ad Registry, that distinguishes a specific ad creative, specified variations if applicable, and certain metadata about the ad.
Ad Registry (AR)	A regional ad registration authority that maintains records for ad creative as entered by the ad's owner, typically a brand, or a representative of the owner. Upon registration, the ad is assigned a unique identifier (UniversalAdId).
ACIF Directory	A central listing of ACIF-compliant ad registries, maintained by the IAB Tech Lab Tools Portal
AR Client	An organization/entity that wishes to register ads and/or validate assigned UniversalAdIds.
Ad Metadata	A set of attributes associated with an ad as identified by its UniversalAdId.

API Components

The following points define the basic components underlying the ACIF Validation API, some of its basic rules, and its evolution.

Ad Registries

A core principle of the framework is the designation of *Ad Registries* (ARs) that are recognized suppliers of durable, unique creative identifiers within the advertising creative ecosystem. The list of recognized Ad Registries is maintained by IAB Tech Lab in the Tools Portal. Each Ad Registry (AR) is responsible for the following primary functions:

- Registering and/or generating UniversalAdIds on behalf of authorized clients and ensuring that all assigned IDs are unique within the registry.
- Enabling access to validate ads that have been assigned a unique ID by the registry.
- Providing basic public metadata for registered ads to indicate at a minimum:
    - **Advertiser**: Typically the business that owns the brand or product represented in the ad.
    - **Brand:** The suite of products or services represented in the ad. The product name could also be represented here.
    - **Language:** The spoken or written language used in the ad.
    - **Duration:** The length of the ad in seconds. A duration of “0” indicates a static image.

  Additional metadata may be provided at the discretion of the ad registry.

Globally Unique Ad Creative Identifiers

Another important component of the Framework is distinguishing the ID of one ad registry from the IDs issued by other registries. Each issued ID must be unique within the registry, and to avoid any duplication from other registries, the issued ID must be submitted with the root domain of the issuing registry. This additional metadata acts as a name space for issued IDs, ensuring that they are universally unique, even if two or more registries issue the same UniversalAdId value. This is similar to the “top level domain” (TLD) used with Internet domains (e.g. .com, .org, .edu, etc.)

- The combination of the ad registry root domain + registry-issued creative ID must be globally unique. Together, these two pieces of information represent the UniversalAdId introduced in Tech Lab’s Video Ad Serving Template v4 (VAST 4) and central to ACIF.

UniversalAdId Validation

The final component of the Framework is support for *standardized validation*. Any UniversalAdId can be validated according to the mechanisms offered by each registry. However, these mechanisms have been proprietary and not always automated.

The ACIF Validation API standardizes how a UniversalAdId is validated and automates the process across platforms. Implementation enables parties throughout the marketing supply chain to easily confirm the uniqueness and source for creative identifiers without having to implement custom registry integrations.

- UniversalAdId validation is supported by calling the validation API endpoint using the HTTP GET method. If the UniversalAdId is successfully validated by the named ad registry then a 200 OK response is returned, with a standard metadata schema. Otherwise, a 404 Not Found is returned.
- The validation operation may or may not require authentication by the caller, depending on the requirements of the ad registry and their contractual arrangements with clients.
- Regardless of authentication, all participating registries provide an open validation mechanism, accessed by clients by calling the validation API endpoint using the HTTP HEAD method. If the UniversalAdId is successfully validated by the issuing registry then a 204 No Content empty response is returned (with no metadata). Otherwise, a 404 Not Found is returned.

Ad Registration for Ads with multiple creative

- Ad registration should result in an issued ID for every base ad creative. Ad registries may offer a system or hierarchy to issue sub-IDs for variants and complementary creative. The resulting UniversalAdId should be used for renditions and uses for that creative, regardless of where the ad serves. For example, a video ad creative used across linear TV, CTV, web and social channels should use the same UniversalAdId for all usages and video transcodings to ensure that data from various sources can be aligned to the same creative message.
- Relationships between 2 or more UniversalAdIds may be expressed to indicate parent-child associations, aliases, derivatives, or format translations. This can be done with the relationship object specified and allows for UniversalAdId "graphs" to be established that promote discovery and interoperability.
- Dynamic creative optimization (DCO) for creative may produce hundreds or thousands of variants by localizing information such as weather, store locations, or other compartmentalized details. For DCO ads, only the base creative need be registered. For buyers that want data on the multiple variants, discuss your options with your ad registry and any campaign partners.

The ACIF Validation API is a living specification. New objects and attributes may be added and enumerated lists may be extended at any time and thus implementers must accept these types of changes without breakage within a version number.

Specification

This section contains the detailed ACIF transaction layer specification. Unless explicitly specified otherwise, annotated as optional, or called out as a best practice, all material aspects of this section are required for ACIF compliance.

Object Model

The sections that follow describe the payload structures for the API response objects. Payloads are simple JSON data structures that carry a small number of attributes.

From a specification compliance perspective, any attribute not denoted *required* is considered optional, but is included in the specification for consistency of use. An optional attribute may have a default value to be assumed if omitted. If no default is indicated, then by convention its absence should be interpreted as *unknown*, unless otherwise specified. Empty strings or null values should be interpreted the same as omitted (i.e., the default if one is specified or *unknown* otherwise).

Note: As a convention in this document, objects being defined are denoted with uppercase first letter in deference to the common convention for class names in programming languages such as Java, whereas actual instances of objects and references thereto in payloads are lowercase.

Object: UniversalAdId

The `UniversalAdId` object represents a unique ad identifier created for a Client by an Ad Registry (AR). Optionally, a set of related UniversalAdId objects can be represented as well.

Attribute	Type	Definition
`universalAdId`	string; required	Globally unique ad identifier code that includes the root domain of the issuing registry + the issued ID.
`arUri`	string; required	The fully qualified URI that returns this UniversalAdId from the AR that issued it

Attribute	Type	Definition
`advertiser`	string; required	The advertiser associated with the creative identified by the UniversalAdId
`brand`	string; required	The brand associated with the creative identified by the UniversalAdId. Advertiser hierarchies can be complex and “brand” can mean different things for different advertisers. This field is intended to name the product represented in the ad.
`duration`	number; required	The duration (in seconds) of the creative identified by the UniversalAdId (for static content, such as display ad units, a duration of 0 is used)
`language`	string; required	The primary ISO language of the creative identified by the UniversalAdId (e.g. en, fr, de, etc.)
`owner`	string	(Optional) The name of the client organization/entity that paid for the UniversalAdId
`product`	string	(Optional) The product associated with the creative identified by the UniversalAdId
`creativeType`	string	(Optional) The primary mime-type category of the creative identified by the UniversalAdId (e.g. video, audio, image, text, etc.). For syntax on mime-ypes, please reference https://developer.mozilla.org/en-US/docs/Web/HTTP/MIME_types
`relationships`	List of `Relationship`	(Optional) The list of creative identifiers (ACIF-compliant or other) that this UniversalAdId is related to. Values for this field help to define generated versions of the original ad creative.

Object: Relationship

The `Relationship` object represents a secondary identifier that is related to the UniversalAdId of a base ad. When optionally included in a metadata response, it allows for the expression of various types of relationships, such as a parent, child, sibling or alias.

The `alias` relationship allows a UniversalAdId to be linked to other creative identifiers, such as legacy codes, house numbers, watermarks, fingerprints, etc. The `parent`, `child` and `sibling` relationships can be used to indicate hierarchies or associations with different versions of a creative.

When the identifier specified in a `Relationship` is another UniversalAdId, then the corresponding `uri` property would be the fully qualified AR validation API URL that returns the associated ad metadata. If the identifier represents a non-ACIF identifier, then the `uri` property would hold the URL to return the associated object representation (if available).

The relationship construct provides a very flexible means of associating other identifiers, objects and metadata sets with a UniversalAdId.

Attribute	Type	Definition
`identifier`	string; required	Related creative identifier. For example, the secondary ID for a variant of the base ad creative.
`type`	string; required	One of the following: 'Parent', 'Child', 'Sibling' or 'Alias' (see description in the text above this table)
`uri`	string	(Optional) A fully qualified URI that returns a representation of the object referenced by the identifier

IAB Technology Lab

Implementation Guide

Validation in this API is implemented using a REST API operation that follows a standard URI request and response format. This section describes each of the operations that must be implemented by an ad registry and expected behavior.

For documentation purposes, the references and examples below use the Ad Registry hostname https://acif.example.com.

URL Character Escaping

For HTTP requests that include the UniversalAdId in the URL path or query string, the UniversalAdId value must be URL-escaped to encode any reserved non-alphanumeric characters, such as colon, forward slash, etc. For example, a validation GET operation for the UniversalAdId code “ABC/12345/030” would be escaped as https://acif.example.com/uaids/ABC%2F12345%2F030.

UniversalAdId Validation

Access to core ad creative metadata is another important feature of the ACIF framework. The metadata associated with a UniversalAdId is accessed using the HTTP GET method..

Operation	Verb	Description	Return Type
/uaids/{creative_identifier}	GET	Verifies a submitted, URL-escaped creative_dentifier as being a UniversalAdId that was issued by the Ad Registry and returns the verified UniversalAdId object and associated metadata.**	UniversalAdId, 404 Not Found or 301 Redirect (see Peer UniversalAdId Validation)

Open UniversalAdId Validation

Ad registries may require authentication for validation and retrieval of metadata according to their current policies and user agreements. However, when authentication is not required, at least for basic validation, a head request may be used to validate a UniversalAdId.

Operation	Verb	Description	Return Type
/uaids/{creative_identifier}	HEAD	Verifies a submitted, URL-escaped creative_dentifier as being a UniversalAdId that was issued by the Ad Registry	204 No Content, 404 Not Found or 301 Redirect (see Peer UniversalAdId Validation)

Examples

UniversalAdId Validation

Following is an example of a standard validation operation for a registered UniversalAdId.

```
Unset
Request:  GET https://acif.example.com/ucids/ACME000123
Authorization: {optional-authentication-token}
Response: 200 OK
Payload:
{
  "UniversalAdId": "adregistry.com.ACME000123H",
  "uri": "https://acif.example.com/uaids/ACME000123",
  "advertiser": "Acme",
  "brand": "Coyote Tools",
  "owner": "Acme International",
```

```
  "product": "Invisible Paint",
  "creativeType": "video",
  "duration": "30",
  "language": "en"
  "relationships": []
}
```

Open UniversalAdId Validation

Following is an example of an open (non-authenticated) validation operation for a registered UniversalAdId.

```
Unset
Request:  HEAD https://ucif.example.com/uaids/ACME000123
Response: 204 No Content
Payload: [empty]
```

Validation of Unknown UniversalAdId

The following is an example of a UCID verification operation where an identifier not issued by the AR was passed in the request.

```
Unset
Request:  GET https://ucif.example.com/uaids/UNKOWNID000
Response: 404 Not Found
```

Appendix

Protocol Layers

To assist in interoperability between Registration Authorities and to enable various aspects of the specification to evolve at different paces, a layered approach is being adopted as of ACIF v1.0. The following illustrates this model. Expressed informally, Layer-1 moves bytes between parties, Layer-2 expresses the language of these bytes, Layer-3 specifies a transaction using this language, and Layer-4 describes the goods being transacted.

The following subsections specify these layers as they pertain to the ACIF Validation API specification. Unless explicitly specified otherwise, annotated as optional, or called out as a best practice, all material aspects of these subsections are required for compliance.

Layer-1: Transport

Communications

The base protocol between an exchange and its demand sources is HTTP. Specifically, HTTP HEAD and GET methods to query the Ad Registry API and verify UniversalAdIds.

Calls returning content should return HTTP code 200. Calls returning no content in response to valid requests should return HTTP 204. Invalid calls (e.g., a request containing a malformed or corrupt payload) should return HTTP 400 with no content.

Version Headers

The ACIF version must be passed in the header of each ACIF Validation API request with a custom header parameter. This will allow Registration Authorities and their Clients to recognize the version of the message contained before attempting to parse the request.

```
X-ACIF-Version: 1.0
```

Additionally, while optional, it is recommended that responses include an identically formatted HTTP header with the protocol version implemented by the responder. It is assumed, however, that any response will be compatible with the version of the request and that version support is discussed beforehand between the parties. If the version header is omitted from a request the assumed version will be 1.0.

Transport Security

As of ACIF Validation API v1.0, HTTPS and Transport Layer Security (TLS) version 1.2+ are required for compliance and thus all connections over which the ACIF protocol operates must be HTTPS.

Layer-2: Format

JSON (JavaScript Object Notation) is the format used for all API request and response data payloads. JSON was chosen for its combination of human readability and relative compactness. Given the limited data payloads used and to maintain simplicity of implementations, no other formats are included in the specification.

Layer-3: Transaction

The Transaction Layer defines the specific API operations used for UniversalAdId validation protocol between a client and an Ad Registry.

Refer to the Specification section of this document for full details.

Layer-4: Domain

The Domain Layer defines the objects on which the Transaction Layer operates. In a typical validation transaction the AR client would issue a HEAD request to an Ad Registry for a specific UniversalAdId and the API would respond with 204 No Content response to indicate that the ID was successfully validated. The client may then issue a GET request to retrieve the UniversalAdId object and associated metadata.