



DYNAMIC CONTENT AD STANDARD

Version 1.0

This document has been developed by the IAB Tech Lab Dynamic Content Ad Standard Committee.

The Dynamic Content Ad Standard is a structured system of meta-data for defining creative components and their asset variations in an ad unit. This standard is designed to help creative developers, ad content management systems and ad servers build and serve real time dynamic content in advertisements.

The Dynamic Content Ad Standard is developed to be programming language agnostic. At the same time, it is delivered with a JSON schema as an implementation example available here:

<https://github.com/InteractiveAdvertisingBureau/dynamicAdContentSchema>

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Brightcove	Sharethrough
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Celtra	Spongecell
eBay	Sublime Skinz
ESPN.com	Taboola
Flashtalking	Tapad
Flipboard	The Media Trust Company
Forbes Media	The Weather Company, an IBM Business
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GroupM	Twitter
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1 Executive Summary

Programmatic has made dynamic media a reality, with individual ad placements chosen based on an avalanche of data. While to date, data has been mostly used to inform the media components of the ad, ad tech’s embrace of the creative half of the ad equation is exploding, reflecting marketer’s desire to bring the best technology forward to optimize the right message part of the holy trinity of right message, right person, right place & time with “dynamic” creative.

The need is coming from agencies and brands under two major requirements:

1. The desire to optimize content advertising on social media and other content distribution platforms: In this environment, it quickly becomes overwhelming for an agency to create the myriad versions of the same content necessary to cover multiple platforms. Often, this is as simple as a headline, key visual, disclosure, brand ID, and a call to action—yet varying specs can make versioning onerous to say the least.
2. Marketers are recognizing the need for “in-the moment” messaging where getting the right message at the right time to the user could significantly influence purchase decisions.

Media targeting has gotten much, much better, but creative has barely evolved. A leap forward was made with version one of dynamic creative optimization (DCO), but last generation DCO was limited by the need to create multiple finished ads and ad versions. Recently, however, the groundwork has been laid for a massive leap forward in truly dynamic advertising as marketers’ ability to create more distinct commercial options and creative assets catches up with ad tech’s ability to target, render, and serve them.



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The Dynamic Content Ad Standard aims to address this opportunity driving the demand for dynamic ad component standards.

The new standard will represent a win/win/win for the digital ecosystem. Viewers will get more relevant ads better integrated into their digital experience; marketers will benefit with greater effectiveness, and publishers and ad tech companies will see the resultant growth from delivering greater value.

Of perhaps equal importance to the ad ops and ad tech communities, robust standards will create a foundation for development and implementation that will lead to faster, easier adoption and the freeing up of resources for innovation.

2 Introduction

The Dynamic Ad Content Standard is a structured system of meta-data for creative components and asset variations of the creative components that may be used in an advertisement. It also defines a standard delivery structure that is extensible for custom asset types.

The specification as defined is agnostic of the technology used but, is delivered with a JSON schema.

The standard is generic enough that it can be applied to any type of ad format. But, a specific use case is for dynamic creative optimization and serving real time personalized creative based on available user, context, and other advertising targeting data.

The standard defines all the creative assets that can be used in an ad creative as well as creative groupings.

2.1 Version 1.0 Scope

The scope for Version 1.0 of the Dynamic Content Ad Standard will be limited to ad units that do not have complex rich media components like expansion, multiple interactive or user engagement elements and do not require complex layouts.

The following type of ad units are in scope:

1. Static or single layer creative ad units
2. Ad units with images and texts
3. Ad units with simple animation using core HTML5 technologies like CSS or JS or SVG
4. Ad units with single video engagement that plays in banner
5. Ad units with single “click out” user engagement



6. Dynamic video delivered via VPAID or other creative in VAST

The following type of ad units are out of scope:

1. Rich media units with expansion and multiple layers of creative components
2. Rich interactive units with multiple user engagement creative components

2.2 Audience and Usage

The standard is designed to guide the following audience to communicate the creative components and their asset variations in a standardized format.

1. **Creative Developers** can define the creative components and assets to be used in a structured manner as well as assets groupings based on creative design
2. **Creative Platforms** can integrate the schema in their platforms so they can output the schema to be delivered to ad servers and design their ad tags in a way that can invoke and use the schema to determine what creative asset to use
3. **Ad Content Management Systems** providers can integrate the schema definition to store all the assets with unique identifiers and naming for serving, reporting, and versioning purposes
4. **Ad Serving Systems** - Ad servers, DSPs, Ad Tech providers can use the schema to make real time decisions on which assets to use for a particular impression and serve personalized and relevant ad creative. In addition, they can track the assets for performance and optimization of advertiser objectives and ad effectiveness
5. **Media Agencies and Operations** can use the schema to track different creative assets and for reporting on the performance



3 Specification

Below is the specification detail for Version 1.0

Parameter	Parameter Attributes	Req.	Description
Ad (occurs:1)		Y	Captures top level ad or campaign information
	id	Y	Unique identifier - e.g. ad server or buyer system identifier
	name	Y	Human friendly name for reporting
	advertiser	Y	
ad/version	Version number	Y	This represents the version number for this ad if it has undergone changes. Each new version must be usable by itself and not require another version to determine any data
ad/adUnits (occurs >0)		Y	All ad units that are part of the top level ad must be defined here
	id	Y	Sequential number starting at 1/ buyer or ad tech vendor system identifier
	name	Y	Human friendly name for reporting
	size	N	Use IAB ad sizes
ad/assetGroups (occurs >1)		N	Asset group identifies assets that need to be together in a creative execution for targeting or other purpose. This parameter holds the list of valid groups that can be used for this ad
	id	Y	The id can be a sequential id starting with 1 or an id assigned by the system that creates this

			document
	name	Y	Name of the group that describes the grouping reason and/or assets that are part of the group
ad/creativeComponents/ (occurs > 1)		Y	Creative component is different components of the ad creative used to build the ad - e.g. background image, log, text, CTA button etc.
	id	Y	Sequential number starting at 1
	name	Y	Human friendly name for reporting
	assetType	Y	<p>Asset type is type of creative asset i.e. image, text etc.</p> <p>The enumeration list is:</p> <ol style="list-style-type: none"> 1. html 2. javascript 3. css 4. image (png, jpeg) 5. animatedImage (gif) (can this be image) 6. media - for audio and video 7. svgImage 8. webGl 9. dataFeed 10. assetFeed 11. Text 12. Fonts 13. Uri 14. custom <p>For 'custom' define custom with key value pair the name of asset type</p>
	component Description	N	<p>Defines what type is the component e.g. logo, background image, display URL, price etc.</p> <p>There is no industry standard nomenclature at this time but some suggested descriptions to use are:</p>



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			<table border="1"> <tr> <td>title</td> <td>a title for the ad</td> </tr> <tr> <td>sponsored</td> <td>"Sponsored By" message where response should contain the brand name of the sponsor.</td> </tr> <tr> <td>desc</td> <td>Descriptive text associated with the product or service being advertised. Longer length of text in response may be truncated or eclipsed by the exchange.</td> </tr> <tr> <td>ratings</td> <td>Rating of the product being offered to the user. For example an app's rating in an app store from 0-5.</td> </tr> <tr> <td>likes</td> <td>Number of social ratings or "likes" of the product being offered to the user.</td> </tr> <tr> <td>downloads</td> <td>Number downloads/installs of this product</td> </tr> <tr> <td>price</td> <td>Price for product/app/in-app purchase. Value should include currency symbol in localized format.</td> </tr> <tr> <td>saleprice</td> <td>Sale price that can be used together with price to indicate a discounted price compared to a regular price. Value should include currency symbol in localized format.</td> </tr> <tr> <td>phone</td> <td>Phone number</td> </tr> <tr> <td>address</td> <td>Address</td> </tr> <tr> <td>desc2</td> <td>Additional descriptive text associated with the product or service being advertised</td> </tr> <tr> <td>displayurl</td> <td>Display URL for the ad. To be used when sponsoring entity doesn't own the content. IE sponsored by BRAND on SITE (where SITE is transmitted in this field).</td> </tr> <tr> <td>ctatext</td> <td>CTA description - descriptive text describing a 'call to action' button for the destination URL.</td> </tr> <tr> <td>custom</td> <td>Additional ad components required or offered by the publisher.</td> </tr> <tr> <td>productTitle</td> <td>Name of product being advertised</td> </tr> <tr> <td>productDescription</td> <td>Description of product being advertised</td> </tr> <tr> <td>offerText</td> <td>Text for the special offer being advertised</td> </tr> <tr> <td>productImage</td> <td>Image of the product being advertised</td> </tr> <tr> <td>backgroundImage</td> <td>Image that covers the full background of the advertisement</td> </tr> <tr> <td>logo</td> <td>Advertiser logo image</td> </tr> <tr> <td>logoURL</td> <td>Image source If the logo image is being provided through advertiser url</td> </tr> </table>	title	a title for the ad	sponsored	"Sponsored By" message where response should contain the brand name of the sponsor.	desc	Descriptive text associated with the product or service being advertised. Longer length of text in response may be truncated or eclipsed by the exchange.	ratings	Rating of the product being offered to the user. For example an app's rating in an app store from 0-5.	likes	Number of social ratings or "likes" of the product being offered to the user.	downloads	Number downloads/installs of this product	price	Price for product/app/in-app purchase. Value should include currency symbol in localized format.	saleprice	Sale price that can be used together with price to indicate a discounted price compared to a regular price. Value should include currency symbol in localized format.	phone	Phone number	address	Address	desc2	Additional descriptive text associated with the product or service being advertised	displayurl	Display URL for the ad. To be used when sponsoring entity doesn't own the content. IE sponsored by BRAND on SITE (where SITE is transmitted in this field).	ctatext	CTA description - descriptive text describing a 'call to action' button for the destination URL.	custom	Additional ad components required or offered by the publisher.	productTitle	Name of product being advertised	productDescription	Description of product being advertised	offerText	Text for the special offer being advertised	productImage	Image of the product being advertised	backgroundImage	Image that covers the full background of the advertisement	logo	Advertiser logo image	logoURL	Image source If the logo image is being provided through advertiser url
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ctaURL	If the Call to action is dynamic and is being provided via URL										
backgroundURL	If the background image or content is provided via URL										
	adUnits	Y	Array of ad units that this component can be used in <id1, id2, id3> Must validate with the list of ad units								
ad/creativeComponents/assets (occurs > 0)		Y	Asset variants for each creative component								
	id	Y									
	name	Y									
	source	Y	Source origin or unique location from where to retrieve the creative asset. This includes the file name								
	sourceType	Y	<p>Type of source</p> <p>Uri: absolute URL on 3rd party content server</p> <p>Relative: URL on the ad server that is building the final version of the ad</p> <p>Embedded: assets that are already delivered and need not be retrieved</p> <p>Source Type is an indicator for how the asset is made available - as a resource on another server or resource on same server e.g. image or data feed or already delivered as part of the specification e.g. text</p>								
	fallback	Y	This is the default value if a decision on what								

			<p>creative asset to use cannot be made. Values are 1 if this is the fall back 0 if this is not the fallback It is required to force the developer to define at least one fall back and not leave this undecided</p>
	target	N	<p>This will tag a particular asset to a target so the system knows where this asset can be used. E.g. values are audience, weather, location</p>
	assetGroupIds	N	<p>Array of assetgroup ids. This is to indicate the assetgroups that this asset should be part of. This will ensure that this asset is always selected along with other assets that are part of the same asset group for any creative execution.</p>
	attributes	N	<p>These are attributes specific to asset types. Key value pair to be used to define the attributes. These will vary for each asset type. Attributes must be used as key value pair as follows</p> <pre>attributes": { "<attribute1>": "<value>", "<attribute2>": "<value>" }</pre> <p>E.g. for media asset type of video</p> <pre>attributes": { "weight": "29.6MB", "aspect ratio": "16:9", "codec": "H264", "resolution": "low" }</pre> <p>List of suggested attributes is provided but other values as needed may be used</p>

3.1 Suggested Asset Attributes

These are suggested attributes to define the assets properly. Users may use their own values or custom values based upon use cases.

Asset Type	Attribute	Data Type	Description	Example Value
HTML	weight	Integer	K weight of HTML in kb	110
	filename	string	Name of the html file	index.html
JS (Javascript)	weight	Integer	K weight of JS file in kb	5
	filename	string	Name of the html file	animate.js
CSS	weight	Integer	K weight of CSS file in kb	5
	filename	string	Name of the CSS file	
IMG (Image)	weight	integer	K weight of image file in Kb	25
	transparency	boolean	Supports transparency	0 or 1
	mime	string	Mime type value	image/jpeg
	watermark	string	Brand ownership indication	Brand name
	filename	string	Name of the image file	
GIF	weight	integer	K weight of image file in Kb	25
	framerate	integer	Framerate per second	12
	mime	string	Mime type value	image/gif
	watermark	string	Brand ownership indication	Brand name
	filename	string	Name of the GIF file	
Media	weight	integer	K weight of image file in Kb	25
	Aspect ratio	string	Aspect ratio of the video	16:9

	mime	string	Mime type value	audio/x-aiff or video/mpeg
	watermark	string	Brand ownership indication	Brand name
	codec	string	Codec used	h.264
	duration	integer	Time in seconds for playing the media	6, 15, 30
	resolution	string	Media quality resolution	High-1080 p o higher Medium- 720 p Low- SD Raw video for raw mezzanine files
	filename	string	Name of the media file	
SVG	weight	integer	K weight of image file in Kb	25
	watermark	string	Brand ownership indication	Brand name
	filename	string	Name of the SVG file	
WebGL	weight	integer	K weight of image file in Kb	25
	watermark	string	Brand ownership indication	Brand name
	library	string	URI of the library	pixi.js
	filename	string	Name of the WebGL file	
Data Feed	format	string	Format of the web feed. E.g. from Facebook, Twitter, etc.	JSON RSS XML Atom CSV
	key	string	Access key or token	



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	user	string	User account for access	
Asset Feed	format	string	Format of the web feed. E.g. from Facebook, Twitter, etc.	JSON RSS XML Atom CSV
	key	string	Access key or token	
	user	string	User account for access	
	vendor	string	Feed provider vendor name or URL	
	fields	array	Fields from the freed to be used for creative	id:text
Text	language	String (3 letter ISO 693-2 code)	Text language. Codes available here : https://www.loc.gov/standards/iso639-2/php/code_list.php	Eng for English
	style	string	CSS style statement for text	CSS pairs
Font	weight	integer	K weight of the font file in kb	30
	format	string	Font format and other detail required for rendering	True type Open type
	vendor	string	Font provider/ source	Monotype Google

4 Appendix

4.1 Examples of Implementation

To test the validity of the specification, Spongecell, Jivox and Brian Ales developed and implemented dynamic content ads using the new dynamic content ad standard.

You can view those examples at <https://www.iab.com/dynamiccontentads>

4.1.1 Demo provided by Jivox

Example of dynamic content ad variations by demographic and weather data signal. Depending on the gender of the viewer and on the type of weather, different ad variations are generated. You can also preview the corresponding JSON schema for each ad variation.

4.1.2 Demo provided by Spongecell

Example of dynamic content ad variations by geography and language data signal. Ad viewers are served localized video voice overs, messaging, and currency based on the country selected. You can also view the JSON schema that describes the dynamic content used to generate the demo ad campaign.

4.1.3 Audio Demo

Example of dynamic mixing of voice over and background music content variations based on what the user is listening to e.g. a particular genre of music or a specific type of non-music talk show. You can also view the JSON schema that describes the dynamic content and attributes used to generate the ad campaign.



4.2 Github Schema

The JSON schema will be maintained as an IAB Techlab github repository.

<https://github.com/InteractiveAdvertisingBureau/dynamicAdContentSchema>