



IAB NEW STANDARD AD UNIT PORTFOLIO

DRAFT FOR PUBLIC COMMENT

SEPTEMBER 26, 2016



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IMPORTANT DRAFT RELEASE NOTES: This is a draft for public comment. This draft period will close on November 28, 2016. Please submit feedback via email to Shailley Singh, IAB Tech Lab lead on this initiative, at newadportfolio@iab.com prior to the deadline. You should not rely on this public comment draft. Please wait for the final specification to be published in early 2017.

This document for public comment has been developed by the IAB Tech Lab Flex Ads Committee.

The guidelines in this document are comprehensive recommendations of advertising experiences across diverse digital landscape including websites, mobile apps, social media, communication, and messaging experiences as well as new digital experiences like virtual reality and augmented reality.

The IAB New Standard Ad Unit Portfolio (“IAB New Ad Portfolio”) is comprised of display ads, native ads, and new content experiences like emoji ads, 360-degree image and video ads, virtual reality ads, and augmented reality ads.

Display ad guidelines have been updated to incorporate LEAN principles of lightweight and non-invasive advertising as well as to embrace fluid cross-device and multiple resolution screens by applying aspect ratio based flexible ad sizes that can maintain the creative fidelity across different screen sizes.



All guidance is based on HTML5 technology and has been derived based on industry surveys, user research, and testing, including:

1. Attitudes and Usage Study to determine which of the ad units, in the current portfolio, contribute to the majority of revenue and are sufficient to advertise across multiple screen sizes
2. [IAB Ad Blocking Report](http://www.iab.com/insights/ad-blocking-blocks-ads-win-back/) (<http://www.iab.com/insights/ad-blocking-blocks-ads-win-back/>)
3. Comprehensive assessment of minimum file weights required to deliver assets of specific sizes to the user device
4. Transition testing to determine how to adopt the new guidance

The Flex Ads Working Group was led by:

1. Anthony Yam, Chief Product Officer and Co-Founder, Spongecell
2. Buzz Wiggins, Senior Director Product Management, Kargo
3. Nathan McCormick, Director Ad Platforms and Operations, Cox Media Group

Contributions for testing and ad creatives were provided by:

About.com, AOL, Aufeminin.fr, BBC, Bloomberg Media, Flashtalking, Flite, GroupM, Improve Digital, Nettavisen.no, Flexitive, PGAtour.com, Sizmek, Smart Ad server, Spongecell, and Weborama



The following IAB Tech Lab member companies were part of the working group that created this draft:

Aarki	Grey Advertising	Sizmek
ABC TV Network	GroupM	Spongecell
AdCade	Gruuv Interactive	Startapp
Adelphic, Inc.	Havoc	Sublime Skinz
AdGear Technologies, Inc.	Ipsos	TapAd
Ansible	J. Walter Thompson U.S.A., Inc.	Team AOL
AOL	Kargo	The New York Times Company
AOL Platforms	Mashable	The Walt Disney Company
Beachfront Media	MediaCom	The Weather Company, an IBM Business
Bloomberg	Merkle Inc	Undertone
CBS Interactive	Micro Cube Digital Limited	Unity Technologies
Celtra	Microsoft Advertising	Unruly
Cox Media Group	MING Utility & Entertainment Group	USATODAY.com
Cyber Ideas	Monotype	Vertebrae
Dow Jones & Company (The Wall Street Journal)	Flexitive	Vibrant Media
ESPN.com	Ogilvy	Xaxis
Flashtalking	PageFair	Yahoo
Flipboard	PGA TOUR	YieldMo
Flite	PointRoll	Zillow
Forbes Media	R/GA	
Gannett	Responsive Ads	
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Flexible and LEAN Ads

The IAB New Ad Portfolio emphasizes LEAN ad experience and flexible size ad specifications.

LEAN ad experience for digital advertising is based on the following principles:

1. Respect: A consumer's primary objective is consuming publisher content
2. Control: A consumer has control over his/her advertising experience
3. Choice: A consumer decides what content he/she wants to experience and for how long

Accordingly, LEAN guidance addresses the following:

1. Light weight user experience to maximize initial page load performance
2. Non disruptive ad experiences

Flexible Size Ad Specifications are based on the consumer device landscape, operational efficiency for publishers, and the need for creative fidelity:

1. Devices are proliferating in different sizes and multiple resolutions
2. Publisher content needs to be delivered to multiple screen sizes and requires ads that can respond to multiple sizes
3. Creative design needs to scale to different sizes without losing its original message and impact

Accordingly, flexible size ad specifications define aspect ratio based ad units that maintain their aspect ratio, adjust to the screen size, and can be integrated in responsive website designs.

Every ad in the new ad portfolio is a LEAN ad. Any ad unit can deploy any ad experience as long as it complies with file weight, initial load, subload, and file requests guidance.



Flexible Size Ad Specifications

Ad Type	Ad Unit Name	Transition Fixed Size Ad Unit (Size in px)	Aspect* Ratio	Screen Size**	Min. Width (dp)***	Max K-weight (KB)		Static Image Size (dp)**
						Initial	Subload	
Horizontal Banners <ul style="list-style-type: none"> Fits edge to edge of screen width OR margin to margin of content layout width Landscape Layout Top or bottom of the screen Middle of page sections 	6x1	Smartphone Banner 300x50, 320x50	6:1	Small	300	50	100	300x50
				Medium	600	100	200	600x100
				Large	900	150	300	900x150
	4x1	Billboard 970x250	4:1	Small	300	50	100	300x75
				Medium	600	100	200	600x150
				Large	900	150	300	900x225
	3x1	N/A	3:1	Small	300	50	100	300x100
				Medium	600	100	200	600x200
				Large	900	150	300	900x300
	10x1	Super Leaderboard/ Pushdown 970x90	10:1	Medium	600	100	200	600x60
				Large	900	150	300	900x90
	8x1	Leaderboard 728x90	8:1	Medium	600	100	200	600x75
Large				900	150	300	900x112	
Vertical Tall Banner <ul style="list-style-type: none"> Fits edge to edge from top to bottom OR margin to margin vertically between page layout elements Right or left edges of the screen or page layout 	1x3	Portrait 300x1050	1:3	Medium	300	200	400	300x900
	1x2	300x600	1:2	Medium	300	200	400	300x600
Tiles <ul style="list-style-type: none"> Rectangles/Squares In between layouts Tiles in Grid layouts Usually small ~300 dp width but can be larger 	1x1	Medium Rectangle 300x250	1:1	N/A	300	150	300	300x300
	1x4	Skyscraper 160x600	1:4	N/A	160	150	300	160x640
	16x9	N/A	16:9	N/A	300	100	200	300x168



Ad Type	Ad Unit Name	Transition Fixed Size Ad Unit (Size in px)	Aspect* Ratio	Screen Size**	Min. Width (dp)***	Max K-weight (KB)		Static Image Size (dp)**
						Initial	Subload	
Full Page <ul style="list-style-type: none"> Covers Full screen Portrait or Landscape (use inverted aspect ratio for landscape) Edge to Edge (margin for screen top bar on devices) of the screen Applies to mobile phones, tablet and other devices for interstitials and expanded part of rich media ads 					Portrait / Landscape			
	9x16	N/A	9:16	Small	300/540	200	400	320x568
				Medium	600/1024	300	600	640x1136
	10x16	N/A	10:16	Medium	800/1024	300	600	800x1280
	2x3	N/A	2:3	Small	300/480	150	300	320x480
	3x4	N/A	3:4	Medium	600/1024	300	600	480x800
Half page <ul style="list-style-type: none"> Large Ads covering at least half the page Edge to edge of the screen or Margin to Margin of page layout Applies to interstitials, large lightbox or expanded part of rich media ads on desktop 	2x1	N/A	2:1	Medium	800	250	400	800x400
				Large	1024	250	400	1024x512

Ad Type	Size (px)	Ad Unit	Max File Size (KB)
Feature Phone Ad Units <ul style="list-style-type: none"> Only to be used for ad serving to feature phones 	120x20	Small Banner	5
	168x28	Medium Banner	5
	216x36	Large Banner	5

* **Aspect Ratio:** All aspect ratios are described as ratio of ad width: ad height

** **Screen size scale:** Small < 7 inches, Medium = 7 to 10 inches, Large > 10 inches

*****Density-independent pixels (dp):** Devices can have different resolutions. Resolution is defined by number of pixels per inch. Density independent pixels is a way to consistently measure the size of an image on a device independent of screen resolution. 320 dp is approximately 2 inches wide.

dp = (width in pixels * 160) / screen density.

E.g. for pixel density of 1 i.e. ~160 pixels per inch (iPhone 3) 320dp is 320px (320dp= (Xpx *160)/160).

For pixel density of 2 i.e. 320 pixels (iphone 5) 320dp is 640px (320dp= (Xpx *160)/320)



General Ad Requirements (applies to all ads)

- **Interest-Based Advertising (IBA):** Include IBA self-regulation controls for ads using behavioral targeting (5 KB max file size).
- **Audio:** Must be user-initiated. To allow for audio initiation in ads without player controls, a control may be included for user to initiate audio.
- **Defining ad space:** Ad unit content must be clearly distinguishable from normal webpage content (ad unit must have clearly defined borders and not be confused with normal page content).
- **Max CPU:** Ad should not exceed 30% CPU usage during host-initiated execution.
- **Submission lead time:** Minimum recommended lead time for ad file submission is six days before campaign start. Please check with your publisher for their guidance. May require more time for new ad experiences.
- **Max number of host-initiated file requests:** Ad should not exceed ten file requests during initial file load. Additional files can be loaded as necessary during host initiated subload and user initiated loads.

General Notes

- **File weight calculation:** All files for the ad, including shared libraries must be included as part of the maximum file weight calculation for all file load limits. File weights are calculated after files have been compressed into gzip format. See LEAN guidance for additional information on 'Shared Libraries'.
- **Initial file load:** Includes all assets and files necessary for completing first visual display of the ad and requested before DOMContentLoaded browser event.
- **Host-initiated subload:** Ad file subload may begin one second after the browser DOMContentLoaded event. The ad should be able to "listen" for the browser DOMContentLoaded event before loading subsequent files beyond the initial max file size may be loaded.
- **User-initiated file size:** Unlimited file size load is allowed after user-initiated interaction. Ad should be responsible about bandwidth and device capabilities while doing so. User initiation is the willful act of a

user to engage with an ad. User interaction is discrete user action with the ad or its elements, e.g. click, tap, swipe or other complete and discrete gesture.

- **Static file weight and Static image size:** Use Initial Max K-Weight guidance for static image only ads or backup file requirements.
- **Slow internet connection:** For 3G (1.5 Mbps download speeds) or slower connections, the file weights should be 30% less than recommended.

Flex Ads Sizing Grid

The sizing grid is a LEAN standard based range of k-weights for an ad of given pixel size. This will allow self-determination of ad specification for innovative and custom ad formats that are not IAB standard.

Size Group (x1000 pixels)	Example IAB Fixed Size Ad Units	Max Initial K-Weight (KB)	Max Subload (KB)
Less than 120	300x50 320x50	50	100
120-300		100	200
300 - 600	970x90 300x250 728x90 160x600 970x250 Full Screen Mobile Phones (< 4.5")	150	300
600- 1000	Full Screen Mobile Phones (4.5" - 6")	200	400
1000 - 2000	300x1050 300x600 Full Screen Mobile Phones (>6")	250	500
Greater than 2000	>7" Full Screen	300	600



Guidance for LEAN Ad Experience

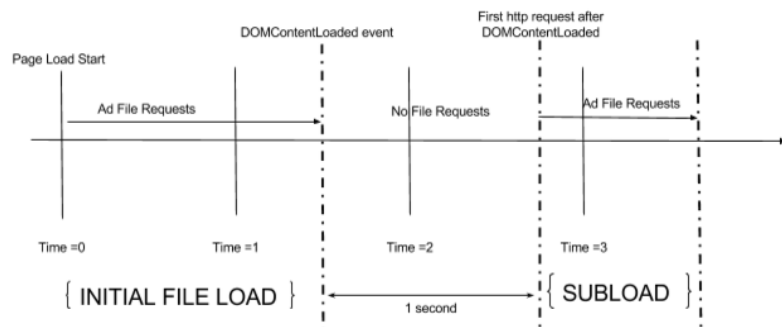
User Experience and Load Performance

The new guidance creates a positive user experience of advertising by way of maximizing page load performance. It requires the ad to:

1. Use light weight files during initial load of the page
2. Minimize render blocking scripts like CSS, Javascripts during initial load
3. Use subload for ad experiences that require heavy file weights
4. Minimize number of files requested during initial load
5. Make user initiation required for ad functionality that needs large file downloads

Initial Load vs Subload

For the purpose of defining initial load and subload, browser event “DOMContentLoaded” is considered as the event to separate the initial load from subload. **Subload** MUST start 1 second after the “DOMContentLoaded” event.



Initial Load is defined as all files requested by the ad when the page starts loading. It includes all files sent by the ad server to the page (image, HTML5, JS, CSS, Sprite sheets, Video files) as well as all files requested by the ad before the DOMContentLoaded event is fired by the browser.

Subload is defined as all files requested by the ad after the DomContentLoaded event is fired. It includes all files requested by the ad (auto initiated without any user interaction) to the page (image, HTML5, JS, CSS, Sprite sheets, Video files).

Subload MUST start at least 1 second after the DomContentLoaded event.

User Initiated Load

When a user initiates interaction with the ad, unlimited gzipped file load is allowed for any creative assets loaded after user-initiated ad interaction, like expansion or clicks.

While no limits have been placed on user initiated load, ad developers should consider user experience and load performance as part of their ad design.

The assets for user initiated ads should be optimized for load performance, and only necessary assets should be loaded.

File Requests

Maximum number of Initial Load **file requests allowed is 10**

HTML5 ads are like mini web pages and the number of requests made to fetch files has a big impact on load performance of the ad as well as the page.

This file request limit only applies to the initial load. No file request limit has been placed on subsequent file loads.

HTTP2 standard allows multiple requests per connection. This will negate the need for this standard in the future when HTTP2 adoption is at acceptable levels. Currently, most browsers support it (<http://caniuse.com/#search=http2>) but content and ad server adoption is low at ~10%. More information on HTTP2 is available here: <https://http2.github.io/faq/>. And more data on adoption is available here: <https://w3techs.com/technologies/details/ce-http2/all/all>

What is gzip?

All assets for HTML5 ads must be packaged together for delivery. To optimize the file size for delivery to a browser, all assets should be delivered in compressed format. The common method for compressing files in transition over the Internet is the gzip utility, which is free to use and supported by all



modern browsers. Ad servers compress ad files they serve as part of their general process.

Shared Libraries and Resources

Publishers and ad servers are encouraged to take advantage of browser caching functionality by allowing use of common and popular shared libraries. Please refer IAB HTML5 Resources wiki (https://wiki.iab.com/index.php/HTML5_for_Digital_Advertising_Resources) for commonly used shared libraries.

Publishers and ad servers may exclude shared libraries originating from specific CDN from file weight calculations. Publishers and ad servers must specify the shared library name and CDN that can be excluded from file weight calculations in their ad specifications and guidance to advertisers. They must provide reasonable notice for the advertiser to update creative.

Any shared library and CDN not specified in publisher or ad server guidance MUST be counted in file weight calculations.

Other shared resources for which the publishers and ad servers are encouraged to take advantage of browser caching functionality are Web Fonts, DAA provided Ad choices insertion, and CSS packages.

Render Blocking Elements

JavaScript is a render blocking script that blocks the DOM construction and delays page content rendering.

It is RECOMMENDED that all JavaScript be executed as asynchronous and executed inside a sandboxed i-frame.

CSS also blocks rendering. To minimize the impact of CSS render blocking it is RECOMMENDED that ads use inline styles instead of external CSS.

The IAB Tech Lab HTML5 Ad Validator (<https://html5.iabtechlab.com/>) can be used to determine initial load, subload, file requests, shared libraries, and all ad files.

User Experience and Ad Content

The new ad portfolio emphasizes user respect, choice, and control in advertising experience. The new guidance addresses the features and functions that will help create the right user experience. These experiences

can be used in any of the ad units as long as the ad complies with initial load, subload, and number of file requests per the guidance in the specification of that ad unit.

Rich Media is defined as interactive features that engage the user and initiate new content experiences. Interactive features could be animation or elements that trigger ad expansion or video play or other interactive experiences. Rich media experiences that require files or creative assets in addition to initial load and subload limits MUST be user initiated.

Animation is moving images or other rich experience, usually without the use of video files like mp4. They may use small video files to enhance the animation effects as long as the total file weights are within the allowed limits of initial load and subload.

1. Length of animation MUST NOT exceed **15 seconds**. No looping beyond 15 seconds.
2. Animation is RECOMMENDED to be part of subload. JavaScript used for animation must be executed as asynchronous load and CSS used must be inline.
3. Animation MAY be host initiated, i.e. user action is not required to play animation.
4. Animation is RECOMMENDED to start when the ad is within view.
5. Animation MUST be relevant to the ad creative and message.
6. Flashing and bright color animation to attract user attention without relevancy to ad message or creative MUST NOT be used.

Ad Expansion is when an ad initiates a new experience and expands to a size bigger than its original size

1. Ad expansion MUST BE user initiated.
2. On expansion it is recommended that the ad take over the full screen and the expanded ad creative is placed in the center of the screen.
3. The action for ad expansion MUST BE a complete discrete user action, e.g. Click, Tap, Swipe, or depending on device another discrete, completed touch or gesture.
4. Hover or Rollover MUST NOT be used as actions for ad expansion.
5. Expanded ad MUST have a clear and discrete cancel or close button to allow user to dismiss the ad when desired.



When is auto expansion allowed?

Auto expansion while scrolling: Inline within the page expansion while user scrolls on the page is allowed with the following guidance:

1. The ad must not overlay content and must not disrupt (push down or block) the placement of content while expanding.
2. The ad MUST have a close button from the start of the advertisement to close the ad.
3. If the ad auto collapse/close, it MUST NOT impact or move the content up or down. The alternate option is to NOT auto collapse.

Although auto expansion while scrolling is allowed, it is RECOMMENDED to use inline ads that appear as a user scrolls down for a better user experience.

Interstitials are defined as ads that are before, in between, or after the primary content experience

1. Ads that overlay or cover the content after a user has started viewing content are NOT interstitials. They are considered Pop Up Ads.
2. For serving interstitial ads there should be a break in content experience – User navigating to and/or away from content.
3. All interstitial ads MUST have a close button as defined by this guidance.
4. Forced countdown to dismiss an interstitial ad is NOT RECOMMENDED.

Close Buttons MUST be present for all ad experiences or ad units that interrupt or partially obstruct the publisher content experience, e.g. ad expansions, interstitials, anchored banner, or adhesion banner. The close button needs to be clear, discrete, and available from the start.

1. The close or cancel button MUST be on top right corner of the ad.
2. The cancel or close button must include an “X” image of minimum size 50x50 dp. Additional language to indicate user destination on close, e.g. “Cancel” or “Close” or “Skip to Site” or “Go to Content” may be included in addition to the close button.
3. The close button MUST be available from the start of the ad experience.

Video in advertising placed inside non video environments is a popular ad experience. Video ads require a large file download typically 1.0 MB or above, and significantly impact user’s bandwidth and device battery consumption. This guidance addresses video ads in non-video environments.

Video guidance applies to in banner videos and ‘outstream’ ads that are placed in between non video content, e.g. in article or in lists or any video ads in non-video content experiences.

1. Video MUST be user initiated.
2. Video controls to Mute/Unmute audio and Pause/Play video MUST be available when video is playing
3. The RECOMMENDED maximum length for in banner video is 15 seconds and 1.1 MB file size
4. MINIMUM 24 fps
5. Video download MUST NOT start until user initiation

When is auto play video allowed?

Publishers and advertisers are encouraged to allow user control over their auto play experience by storing user preference or providing low data consumption modes in apps and websites. Video MAY be played by the ad without user initiation when it does not significantly impact the user’s cost of consuming content. It may be used under the following guidance:

1. When a user is on Wi-Fi or broadband internet connections. This is to respect user’s cost of consuming content.
2. Audio MUST be muted when video is played without user initiation.
3. Auto play MUST begin after ad is at least 50% in view
4. Auto play MUST provide pause/play and mute/unmute controls from the start of video play
5. The video file for auto play MUST be downloaded as part of the subload

This guidance DOES NOT apply to in-stream video ads that are played in video content popularly known as pre roll, mid roll, or post roll.

Non Disruptive and Non Invasive User Experience

Disruption of the content consumption experience by advertising has been a major complaint from users as well as motivation to use ad blocking tools. This guidance addresses **disruptive experiences that MUST NOT** be used in ad experiences.



Pop up ads

Ads that cover or overlay the content or obstruct users from viewing the content. It includes all ads that pop up on the user's screen and cover the content as well as ads that "float in", "slide in", "fly in" to the screen and obstruct the full or part of view of the screen's primary content. Any ads that automatically take user to an interstitial or overlay ad without user initiation or user action to navigate content.

Auto Expansion

Ads that expand from their original size to a bigger size without user initiation MUST NOT be used. Expansion while scrolling is allowed. Please see LEAN Guidance for details.

Hover or Rollover Expansion

Hover MUST NOT be considered a substitute for a click, for the purpose of ad expansion. On hover, no ad function that changes the form or size of the ad from its original size is allowed, e.g. expansion.

Sideways Ad Expand that Overlays Content

No directional or sideways expansion of an ad is allowed. All ads must expand to cover full screen. If expanded creative size is not full screen, it must be placed in center of screen.

Auto Play Video/Audio

Auto play defines automatic initiation of video or audio media by the ad. User initiation MUST be required to initiate video play or audio play. Video play is defined as execution of specific files, e.g. mp4 that are used to play video.

Forced Countdown

Forced countdowns to dismiss or skip ads MUST NOT be used. User should have immediate option to "Close" or "Dismiss" the ad from the beginning of the ad experience.

Specific Ad Experience Recommendations

The following table is a summary of IAB New Ad Portfolio recommendations for popular ad experiences in view of LEAN guidance.

Ad Experience Type	Status	Guidance
Rising Stars		
Billboard	In Transition	Under Evaluation
Filmstrip	In Transition	Under Evaluation
Portrait	In Transition	Under Evaluation
Pushdown	In Transition	Under Evaluation
Sidekick	In Transition	Under Evaluation
Slider	In Transition	Under Evaluation
Mobile Rising Stars		
Filmstrip	Not Allowed	
Pull	Not Allowed	
Adhesion Banner banners that are anchored to the bottom of the screen	Allowed	Ad height MUST be less than 25% of the screen height. The ad MUST have a clear boundary to separate it from the content. The ad MUST cover the full width of the screen edge to edge. The ad MUST have a 'close button' above top right corner of the ad as defined in 'User Experience and Ad Content' section
Full Page Flex (Square)	In Transition	Replaced with aspect ratio based full page ad formats
Slider	In Transition	Under Evaluation
Expand while scrolling	Allowed	The expansion MUST be inline on the page. Expansion MUST not overlay or cover any part of the content on the page. When out of view the ad MUST NOT auto collapse that causes the page content to move and disrupt user experience.
Underlays Ads Ads that appear under the page and reveal ad content while scrolling	Allowed	The content MUST appear scrolling over the ad. The Ad MUST not cover or overlay any part of the content.
Scrolling overlay ads that appear while scrolling and auto expand to cover the content or screen. Ads that do not expand inline but overlay the content.	Not Allowed	



Delisted and “In Transition” Ad Formats

The following ad experiences or ad formats are either ‘in transition’ or have been delisted from the IAB New Ad Portfolio.

Ad unit/ Experience	Delist/In Transition*	Guidance
Pop Up Ads/ Floating Ads	Delist	The ad format is no longer part of the IAB Ad Unit Portfolio
Auto Expand Ad functionality	Delist	Expansion without user initiation is not allowed. Please see LEAN guidance for ad expansion
UAP (Universal Ad Package)	Delist	All ads are now LEAN ads so no need for separate UAP
Rich Media	Delist	All ads are now LEAN ad so no need for separate Rich Media ad units
300x50 or 320x50	In Transition	To be replaced by 6x1 horizontal banner
970x250	In Transition	To be replaced by 4x1 horizontal banner
970x90	Delist	The ad format is no longer part of the IAB Ad Unit Portfolio
728x90	In Transition	To be replaced by 8x1 horizontal banner
300x1050	In Transition	To be replaced by 1x3 vertical portrait
300x600	In Transition	To be replaced by 1x2 vertical portrait
300x250	In Transition	To be replaced by 1x1 vertical portrait
160x600	In Transition	To be replaced by 1x4 vertical portrait
Full Page Flex Square	In Transition	To be replaced by Full Page 9x16, 10x16, 2x3, and 4x3 aspect ratios
180X150	Delist	The ad format is no longer part of the IAB Ad Unit Portfolio
120x60	Delist	The ad format is no longer part of the IAB Ad Unit Portfolio
88x31	Delist	The ad format is no longer part of the IAB Ad Unit Portfolio

***In Transition:** The ad format is allowed for now but will be replaced by the ad format provided in guidance

***Delist:** The ad format or the specification is no longer part of the IAB Ad Unit Portfolio



Native Ads

Native ad units are ad units that are integrated in the user's content experience and usually take the form of the content on the page. Typically, four types of native ad units are used, namely Story Ad, Video Ad, Product Ad, and App Install Ad. More details on Native Ad units and placements can be found in IAB Native Advertising Playbook (<http://www.iab.com/wp-content/uploads/2015/06/IAB-Native-Advertising-Playbook2.pdf>) and IAB Deep Dive on In-Feed Ad Units (http://www.iab.net/media/file/IAB_Deep_Dive_on_InFeed_Ad_Units.pdf). Further details and specifications are available in Open RTB Dynamic Native Ads API (http://www.iab.com/wp-content/uploads/2016/03/OpenRTB-Native-Ads-Specification-1-1_2016.pdf).

In this document we outline the ad formats and specification for asset requirements for Native Ads.

Ad Unit

Format of the Native Ad unit will depend on the placement type. But in general the assets required for native ads are similar. Any Native Ad unit may include a data asset, image asset, animation, and/or video.

Placement Types

1. In the feed of content, - i.e. as an item inside the organic feed/grid/listing/carousel
2. In the atomic unit of the content - i.e. in the article page or single image page
3. Outside the core content - i.e. in the ads section on the right rail, as a banner- style placement near the content
4. Recommendation widget, most commonly presented below the article content

Native Image Assets

Image Asset Type	Image Asset Aspect Ratio	Min Height (dp**)	Min Width (dp**)	Recommended File Weight (KB)
Icon	1:1	50 (max 300)	50 (max 300)	10
Main-Small	1:1	200	200	30
	4:3	200	267	30
	1.91:1	200	382	30
Main-Large	1:1	627	627	90
	4:3	627	836	100
	1.91:1	627	1198	150

**Density-independent pixels (dp) where 320 dp is approximately 2 inches wide. $dp = (width\ in\ pixels * 160) / screen\ density$
E.g. for pixel density of 1, i.e. 160 pixels per inch (iPhone 3) 320dp is 320px ($320\ dp = (Xpx * 160) / 160$).
For pixel density of 2, i.e. 320 pixels (iPhone 5) 320dp is 640px ($320\ dp = (Xpx * 160) / 320$)



Native Ads Data Assets

Data assets for native ads are components of the ad that are transmitted along with the ad file. For example, a native ad may be a product that includes customer review ratings and would include a number for the "rating" asset. A data asset that identifies the brand name of the sponsor ("sponsored by") is required.

Asset Type	Description	Format	Restrictions	Requirement
title	A title for the ad	text	25, 90, or 140-character limit depending on what the receiving party requires	Recommended
sponsored	"Sponsored by" message where response should contain the brand name of the sponsor	text	25-character limit	Required
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	text	140-character limit	Recommended
ratings	Rating of the product being offered to the user. For example, an app's rating in an app store from 0-5	number formatted as a string	0-5	Optional
likes	Number of social ratings or "likes" of the product being offered to the user	number formatted as a string		Optional
downloads	Number downloads/installs of this product	number formatted as a string		Optional
price	Price for product/app/in-app purchase. Value should include the currency symbol in localized format	number formatted as a string		Optional
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	number formatted as a string		Optional
phone	Phone number	formatted string		Optional
address	Address	text		Optional
desc2	Additional descriptive text associated with the product or service being advertised	text		Optional
displayurl	Display URL for the ad. To be used when sponsoring entity doesn't own the content, i.e. sponsored by BRAND on SITE (where SITE is transmitted in this field)	text		Optional
ctatext	CTA description - descriptive text describing a 'call to action' button for the destination URL	text	15-character limit	Optional
custom	Additional ad components required or offered by the publisher.	custom		Optional



New Media Experiences

Developers and publishers have created new engaging digital media experiences using mobile devices, augmented reality, and immersive virtual reality hardware. New media experiences' ad specifications address these new experiences where users are already spending considerable time or that are growing in popularity among users.

Emoji and sticker content is typically used in social communication and messaging environments. Selecting an icon that represents the brand may initiate a branding message, call to action, or special offer.

Ad Type	Ad Unit	Aspect Ratio	Recommended Dimensions (dp)**	Max File Weight (KB)	Notes
Emoji Branded emoji used in social communication and messaging environments that may offer a function such as order a cab or watch a video.	1x1	1:1	20x20	10	200dp x 200dp "stickers" of 30kb max k-weight also allowed. Emoji ads must differentiate from regular content emojis. One way to do this is to use a pulsating emoji.

**Density-independent pixels (dp) where 320 dp is approximately 2 inches wide. $dp = (width\ in\ pixels * 160) / screen\ density$

As more phones are used in a vertical position to record video and check social feeds and other sites or apps, videos in vertical orientation becomes more relevant. **Vertical video ads** run in IAB Full Page ad units in the vertical (portrait) format. They may also run as a component of an augmented reality ad or virtual reality ad.

Ad Type	Ad Unit	Min. Frames per Second (fps)	Duration	Static Image Size	Notes
Vertical Video Video-formatted display ads that play in a vertical (portrait) orientation rather than the typical horizontal (landscape) orientation.	IAB Full Page Ad Units 9x16 10x16 4x3 2x3	24	8-12 seconds recommended, allowed up to 30 seconds	See IAB Full Page Ad units	Brand engagement increases dramatically when text overlays communicate the message without audio. Ads should default to play muted (without audio) using text overlays to communicate the brand message. This format is RECOMMENDED for full screen videos on mobile devices. Ad expansion discouraged.



360 degree images and videos are gaining popularity as a medium with consumers as a way to share their experiences. These create immersive and vivid content that can increase user engagement with the advertisement. It is still in early stages for the content and these are initial specifications of required assets and max initial weights as well as recommended interactions.

Ad Type	Ad Unit	Max Initial K-weight (KB)	Max Subload (KB)	Static Image (KB)	Notes
360-Degree Image These ads use vivid and immersive content from 360-degree images. The ads are image based and 360-degree viewing can be initiated by user action. Click+drag in mouse based user interface control OR swiping or shaking the phone/device in touch and accelerometer based user interface controls. They can be served in display ad units in non-VR experiences or as interstitials in VR experiences	Full Page Ad Units	200	400	150	360-degree image ads require full 360 degree captured images. Advertisers should submit the assets to their creative technology provider with a range of 1280x640 dp minimum and up to 2048x1024 dp max. The file weights required to deliver 360-degree images are heavy. If the file weights required to deliver the ad are higher than the maximum allowed initial load limits, advertisers should consider 360-degree images on user initiated action, e.g. in the expanded part of the rich media ad after the user expands the ad or downloaded/initiated on touch or other discrete gesture like tap, shaking/ moving device using accelerometer to capture the user initiation. Allowed File Types: .jpg, .png,.gif
	2x1	200	400	150	
	4x1 Large	150	400	150	

Ad Type	Ad Unit	Duration	Max File Weight(MB)	Min. Frames per Second (fps)	Notes
360-Degree Video These ads use vivid and immersive content from 360-degree videos. The ads content is a 360-degree video and the 360-degree viewing can be initiated by user action. Click and drag in mouse based user interface control OR swiping or shaking the phone/device in touch and accelerometer based user interface controls. They can be served in display ad units in non-VR experiences	360-degree Video	8 seconds	2	30	High Quality Equirectangular or Cube Map Video File of 720p or higher quality MUST be provided Video MUST be user initiated Video MUST provide user controls to pause, play, stop and mute audio See General Notes for other video instructions to be followed for adaptive bitrate streaming, codec, and format 360-degree video can be delivered in 16x9 landscape or 9x16 vertical video format. See full page flex 9x16 definition for size of the ad
		30-90 seconds	10	30	



Virtual Reality content is a fast growing medium that ranges from basic stereoscopic apps that let users watch content in 360-degree view and motion to sophisticated headsets that let users immerse in full virtual reality (VR) experience with controllers and sophisticated eye gaze controls. Virtual reality ads are ads that display in a virtual space just as they might display in the real world - both two-dimensional and three-dimensional ad formats can be used in VR experiences. For example, a Full Flex display with a 16:9 aspect ratio could display in a roadside billboard of a highway scene in a video game. A video ad might display in a television of a virtual living room. Many of the display ads developed for traditional display may already work in a virtual setting.

Virtual reality ads also offer innovative new formats for digital advertising. For example, a restaurant might sponsor the menu design for a virtual restaurant in a game, or a key object used to embellish a virtual scene may be focused on to draw up a tray in the app that the user can then interact with to learn more. A brand may be able to sponsor a virtual room experience or a brand may sponsor to supplement or complement an object in VR scene with a similar size brand object e.g. replace a soda can with branded soda can or place a branded potato chips package to go along with a soda drink.

Ad Type	Ad Unit	Content	File Type /Size /Quality	Notes
Virtual Reality Ads Ads that display in a 3D or virtual reality environment, either in a designated ad space (such as a street side billboard), as a video (that might play in a virtual home TV or virtual movie theater), or as an object (such as a branded bag of potato chips on the table). Fully branded 3d scenes can also be created as 'Virtual Rooms'	2D Images	Any display ad format appropriate for the scene. MUST NOT be overlay banner. MUST be part of the experience, e.g. a billboard in the scene with ad banner or a picture or wall hanging in a scene that is filled in with a banner ad of the right aspect ratio and size.	Image (jpg, png, gif, etc.)	Ad image should be in the VR scene and within the camera projection or field of view
	2D Video	Use guidelines for linear ads provided in IAB Digital Video Ad Format Guidelines (https://iabtechlab.com/specifications-guidelines/iab-digital-video-in-stream-ad-format-guidelines/) as a baseline and discuss further details as required by the publisher. Video MUST NOT be an overlay or pop up video. Video should not break immersion in the VR environment or require the user to remove headsets in order to properly view the ad. User can be offered to opt-in to an action that may require the user to remove the headset.	Video (mp4, mov, etc.)	Ad video should be in the VR scene and within the camera projection or field of view
	3D 360-degree Video	360-degree Video placed as an interstitial ad between different VR scenes. 360-degree Video MUST completely fill the VR scene with video ad. Video should not break immersion in the VR environment or require the user to remove headsets in order to properly view the ad. User can be offered to Opt-In to an action that may require the user to remove the headset.	15-120 seconds duration 30 - 60 fps, Up to 200 MB max file size	<ul style="list-style-type: none"> • High Quality Equirectangular or Cube Map Video File of 720p or higher quality MUST be provided • Video MUST be user initiated • Video must provide a skip functionality to allow the User to return to the core experience



Ad Type	Ad Unit	Content	File Type /Size /Quality	Notes
	Interactive Object	<p>Irregular three-dimensional shape made by joining a number of digital polygons together, typically of something that represents an everyday object like a shoe, soda can, couch, car, etc.</p> <p>Publishers/Developers define the minimum and maximum polygon count for each 3D branded object along with the number of 3D objects for each brand category. This prerequisite ensures that the object blends appropriately with the environment without overloading the system. Lower polygon count objects look out of place and object with a higher polygon count slow down load time.</p>	object	Viewability depends on scale of the interactive object. A soda can may not need to fill as much of the screen to be viewable as a vehicle would need.
	Virtual Room	<p>Virtual Room is a VR scene that is accessed from the publisher/developer content experience which is devoted solely to the display of sponsored advertising content. Virtual Rooms contains the following elements:</p> <p>Entry Point: An object, spatial UI or other means the user interacts with to enter into the Virtual Room</p> <p>Close Scene/Exit: Virtual Rooms MUST have a “close button” to allow users to easily exit back to content. Users should be returned to the story/game at the exact place they left off</p> <p>Scene Environment: The 360° world the users see in the room</p> <p>Ad Objects: Interactive 3D, 2D and 360 Video ads, Audio tracks, or combinations thereof represented in the room</p> <p>Interactions: The method(s) and results of user interactions with the ad objects. An interaction may produce a transition to another part of the scene or introduce new visual or interactive element in the scene. Users can interact with ad objects multiple ways depending on the hardware being used and methods allowed by the scene developer. E.g. Gaze Event: users look at object within the camera view for a specified amount of time to activate</p> <p>Tap Event: Users look at an object within the camera view and tap the HDM or game controller to activate</p> <p>Voice Control: Users voice commands that are translated into activations</p> <p>Physical Interaction/Gestures: User move their hands or body to activate</p>		



Augmented Reality experiences are a new way to create context and add experiences over real physical world objects and attributes like location or recognized image or object.

Ad Type	Components	Options	Description
Augmented Reality Ads that use a marker in the real world, such as a QR code or an AI-learned concept like a "dog," to trigger the display of brand content. Displayed brand content may be dynamically generated based on data available in the given environment (time, location, etc.) and may move with the scanned or recognized object (tracked to object). Displayed brand content may also be uniquely generated based on the environment scanned (immersive).	Ad initiation or 'Trigger'	Marker from database	An image, often printed, that a scanning system is programmed to recognize. Examples of traditional markers are QR codes or bar codes, but a clearly defined image, such as a specific outline of a dinosaur, may also be used. A marker can also be context like location
		Artificial intelligence-driven recognition	A generalized concept that an artificial intelligence system has been "taught" to recognize. For example, a brand may choose to associate a product or service with dogs. When the AI system on a device "sees" a dog using the device lens, the AI system can associate the familiar concept with the previously known concept of a "dog." The unknown visual of a dog that the AI system scans may be either an image of a dog or the three-dimensional animal. Once recognized, the system can trigger the display of brand content.
	Display	Not tracked to object	Once triggered, the ad content that displays remains static on the screen regardless of what happens to the scanned marker or recognized object.
		Tracked to object	Once triggered, the ad content that displays moves on the screen along with the object that triggered the ad for as long as the object remains in view.
	Content	Static	Any IAB Full Page display ad unit that, once triggered, offers content that doesn't change regardless of what data is available in the given environment.
		Dynamic	Any IAB Full Page display ad unit that, once triggered, offers content that may change based on data that is available in the given environment. For example, time, location, weather, user data, or other data may be used to offer content that is unique to the given environment.
		Immersive	A custom ad experience of any combination of display ad formats, including animation or video, that generates content specific to the object or environment that triggered the brand content. Once triggered, the generated immersive brand content may be static (content that doesn't change) or dynamic (content that changes based on available data or real objects around the user).