



# INTERACTIVE ADVERTISING BUREAU – DISPLAY & MOBILE ADVERTISING CREATIVE FORMAT GUIDELINES

## 2015 ADVERTISING CREATIVE GUIDELINES FOR DISPLAY & MOBILE – UPDATED FOR HTML5

**Here are the revised specifications for Display Advertising and Mobile Advertising Creative Guidelines.**

The display guidelines in this document have been updated to reference HTML5 Ad requirements. Extensive ad load performance testing was done over a period of 4 -5 months to collect performance data of different types of ad units on real publisher pages across browsers and controlled network speeds to reflect average internet and mobile usage to conclude optimum file weights.

Please email [adtechnology@iab.com](mailto:adtechnology@iab.com) if you have any questions.

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AOL

Celtra

Crisp Media

Pointroll

### **Following IAB member companies were part of the working group that created this draft**

[About.com](http://About.com)

Crisp

PGA TOUR

Time Out America

Adobe

Facebook

Medialets

Tribune Publishing

Aarki

Dominion Digital Media

PointRoll

Universal McCann

Addroid

Demand Media

Sizmek

Time Warner Cable Media

BabyCenter

Hanley Wood

OpenX

Viacom

Amazon

Google

Smaato

Univision Communications  
Inc.

AOL

Gawker Media

The Business Insider

Titan Outdoor

Bazaarvoice

IAB UK

Optimatic

Xaxis

Bloomberg

LIN Digital

Spongecell

Verve Mobile

Condé Nast

LA Times

The New York Times  
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Turn Inc.

Centro

Mansueto Ventures

The Huffington Post

Yahoo

comScore

Moat

Time Inc.

YuMe

Disney Interactive

LinkedIn

Undertone

Zillow

Discovery Communications

Millennial Media

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This document should be printed in 11 x 17 (tabloid size) for better viewing experience



# CREATIVE DISPLAY GUIDELINES RELEASE NOTES

The IAB Display Creative and Mobile Creative Guidelines have been updated to fully embrace HTML5 technology as the new standard for ad creative.

The audience capable of viewing Flash content continues to diminish. Mobile devices unable to play Flash content, combined with decreasing lack of Flash support among major desktop browsers, are rapidly accelerating this downward trend. HTML5 is the logical migration path for ad creative.

These creative updates are the result of testing diverse HTML5 ad creatives over a 4 month period for load performance and user experience to determine the optimum specifications for allowed file sizes and other HTML5 considerations. The test results were intensely debated by a cross-industry working group to establish the new specifications. The key goals for this update were to:

- Develop new creative specifications that allow creative vendors to continue building immersive ad experiences using HTML5 technology.
- Guide publishers on the updated file size limits necessary for executing HTML5 ads.
- Provide guidance on factors to consider when building and serving ads in HTML5 that maximizes page and ad load performance and minimize time to visual display of the ad in users' browsers.

## Availability and Adoption

Please be advised that these IAB guidelines represent an industry recommendation. Accordingly, not all publishers, nor all IAB member companies, adopt these guidelines without modification relative to their own unique business offerings. *Marketers, creative designers, and media agencies are strongly advised to consult directly with publishers regarding their ad creative requirements.*

## Consumer Experience and Performance

The new guidelines adhere to the principles of positive consumer experience while balancing the requirements of publishers and advertisers, namely page load performance and the trend toward rich multi-media creative, with the assumption that the consumer's primary purpose for digital publications is consumption of content.

1. All specifications were determined upon extensive load performance and time to visual display performance criteria with a goal of about one second to visual display.
2. New specification criteria were determined based on the one second to visual display goal with subload and file request limits that support HTML5 ad combinations of multiple file types, video lengths, and animation frames.

## Shared Libraries

Publishers and ad servers are encouraged to take advantage of browser caching functionality by allowing use of common and popular shared libraries in HTML5 Ads. Doing so improves ad load and page load performance since the previously used shared library will not need to be downloaded again.

For the current release, file weights for these libraries must be included in the initial file weight calculations for the gzipped HTML ad, but publishers have the option to exempt certain libraries from ad file size calculation. During the publisher certification process, publishers must approve both the shared library and its source before the library can be exempted from ad file size.

Although website developers have been using shared libraries for some time, we must observe and monitor the use of shared libraries for ad creative before we can exclude them from file weight calculations. The impact of shared libraries in file weight calculations will be reviewed in 3-6 months and an appropriate update made in 2016.

## File Requests

HTML5 Ads are like mini webpages that require a combination of multiple files and functions. The number of requests made to fetch files has a big impact on load performance of the ad as well as the page. HTML5 ads must optimize the number of requests being made to the server to reduce the impact on performance. For this release, a maximum of 15 file requests for initial file load is imposed to ensure little adverse effect on page load performance. This file request limit only applies for the file requests required to display the ad upon initial load. No file request limit has been placed on subsequent file loads.

## Host-Initiated Subload

A host-initiated subload replaces the "polite load" in the previous release. Polite load was not clearly defined. The host-initiated subload is defined as "the additional file limit allowed for rich media and Rising Star units that is auto-initiated one second after the domContentLoadedEventEnd occurs (web page content has been loaded) on the host computer or device. Only rich media and rising stars ads allow for the additional host-initiated subload.

## File Weight Calculation

File weights are the total, gzipped file size of all the ad assets being delivered to the browser at a given phase. The three ad-load phases in this release include: initial load, host-initiated subload, and user-initiated load.

- **Initial load** – total, gzipped file size of all ad assets delivered to browser for initial ad display. It includes all files—images, HTML, CSS, JS, and any shared libraries or any other file type—required for initial ad display.
- **Subload** – additional gzipped creative assets allowed for some ads that may loaded no sooner than one second (1s) after the browser domContentLoadedEventEnd event is fired. The ad will need to listen for the browser event and build triggers for subload accordingly.
- **User-initiated load** – includes unlimited gzipped file load 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.

Additionally, for ad units that allow video, another 1.1 MB of file size is allotted for auto-initiated 15-second videos, and 2.2 MB for auto-initiated 30-second videos in both display and mobile.

## What is gzip?

All assets for HTML5 ads must be packaged together for delivery. To optimize the file size for delivery to 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.

## Video Notes

HTML5 video cannot be streamed. Only progressive download is supported. However, standards exist to simulate streaming using an adaptive bitrate streaming format. This release provides guidance on how to format videos used in display and mobile advertising for optimal performance with HTML5 ads.

## HTML5 Note

HTML5 ads are like mini web pages and contain multiple file types that combine different types of technologies such as HTML, Javascript, Cascade Style Sheets (CSS), Web Fonts, shared javascript libraries, SVG, WebGL and other assets like images and video files. A special note has been added to direct readers, especially ad creative designers, to refer to the IAB HTML5 Advertising Guide that has been developed concurrently with these guidelines.



# DISPLAY ADVERTISING CREATIVE FORMAT GUIDELINES: QUICK REFERENCE GUIDE

	CREATIVE UNIT NAME	INITIAL DIMENSIONS (WXH IN PIXELS)	MAXIMUM EXPANDED DIMENSIONS (WXH IN PIXELS)	MAX INITIAL FILE LOAD SIZE (SEE NOTE 2 BELOW)	HOST-INITIATED SUBLOAD (SEE NOTE 3 BELOW)	ANIMATION/VIDEO GUIDELINES (SEE VIDEO NOTES BELOW)	Z-INDEX RANGE	UNIT-SPECIFIC NOTES (SEE GENERAL AD REQUIREMENTS BELOW)
RISING STARS	<b>Billboard</b>	970x250	Initiates in expanded dimensions  Please see style guide for details	200 KB	1 MB	Minimum 24 fps for video 30 sec max length (unlimited user-initiated)  2.2 MB additional file size allowed for host-initiated video  Unlimited file size for user-initiated video or animation	0 - 4,999	This ad unit collapses to "Show Ad" text with icon (or 88x31 image), or "Show Ad" text/icon with residual branding in 62x88 px or 196x31 px image.  Example & Style Guide: <a href="http://www.iab.com/risingstars">www.iab.com/risingstars</a>  Publishers: Please see note 6 below.
	<b>Filmstrip</b>	300x600 viewable with scrolling ad size of 300x3000  Please see style guide for details	Expansion not allowed for this unit	200 KB	300 KB	Minimum 24 fps for video 15 sec max length (unlimited user-initiated)  1.1 MB additional file size allowed for host-initiated video  Unlimited file size for user-initiated video	0 - 4,999	This ad uses a 300x600 viewable window in which a 5-segment ad of total size 300x3000 scrolls Modular design may require added user control.  Example & Style Guide: <a href="http://www.iab.com/risingstars">www.iab.com/risingstars</a>  Publishers: Please see note 6 below.
	<b>Portrait</b>	300x1050 divided into 3 segments  Please see style guide for details	Up to 580x460 depending on module.  Please see style guide for details	200 KB	350 KB	Minimum 24 fps for video 15 sec max length (unlimited user-initiated)  1.1 MB additional file size allowed for host-initiated video  Unlimited file size for user-initiated video	5000 - 1,999,999	The Portrait is a template for including interactive modular apps. Detailed specs are provided for labeling, application options, and required controls.  Example & Style Guide: <a href="http://www.iab.com/risingstars">www.iab.com/risingstars</a>  Publishers: Please see note 6 below.
	<b>Pushdown</b>	970x90 (optionally 970x66 is offered by some publishers)	970x415	200 KB	300 KB	Minimum 24 fps for video 15 sec max length (unlimited user-initiated)  1.1 MB additional file size allowed for host-initiated video  Unlimited file size for user-initiated video	0 - 4,999	Expanding Pushdown ad units "push" page content down rather than expanding over page content. Please see style guide for details on labeling and required controls.  Example & Style Guide: <a href="http://www.iab.com/risingstars">www.iab.com/risingstars</a>  Publishers: Please see note 6 below.
	<b>Sidekick</b>	300x250 300x600 970x250	850x550 (or optional 970x550)	200 KB	300 KB	Minimum 24 fps for video 15 sec max length (unlimited user-initiated)  1.1 MB additional file size allowed for host-initiated video  Unlimited file size for user-initiated video	5000 - 1,999,999	Unit extends to side of page. Please see style guide for details on labeling and required controls.  Example & Style Guide: <a href="http://www.iab.com/risingstars">www.iab.com/risingstars</a>  Publishers: Please see note 6 below.
	<b>Slider</b>	Width of publisher page by height of 90px  Active ad content centered in 970x90	970x550 behind slider bar	200 KB	300 KB	Minimum 24 fps for video 15 sec max length (unlimited user-initiated)  1.1 MB additional file size allowed for host-initiated video  Unlimited file size for user-initiated video	5000 - 1,999,999  Note: Make sure the z-index of the Slider Bar is higher than those of the page and the Slider Content	Use a branding color for the gutter areas while keeping active ad elements in the center 950px. In the Slider Content, use a branding color for the bottom 90px while keeping active ad elements in the top 460px. The Slider Bar is anchored to the bottom and will be pushed up by any horizontal scroll bars. Click or rollover initiates slider content. Must contain "Close X" in expanded slider bar and in slider content.  Example & Style Guide: <a href="http://www.iab.com/risingstars">www.iab.com/risingstars</a>  Publishers: Please see note 6 below.
UNIVERSAL AD PACKAGE (UAP)	<b>Medium Rectangle</b>	300x250	Expansion not allowed for this unit	200 KB	Not allowed for this unit	15 sec max animation length Video not allowed for this unit. See "In-Banner Video" & Rich Media units below	0 - 4,999	
	<b>Rectangle</b>	180x150	Expansion not allowed for this unit	80 KB	Not allowed for this unit	15 sec max animation length Video not allowed for this unit. See "In-Banner Video" & Rich Media units below	0 - 4,999	
	<b>Wide Skyscape</b>	160x600	Expansion not allowed for this unit	200 KB	Not allowed for this unit	15 sec max animation length Video not allowed for this unit. See "In-Banner Video" & Rich Media units below	0 - 4,999	
	<b>Leaderboard</b>	728x90	Expansion not allowed for this unit	200 KB	Not allowed for this unit	15 sec max animation length Video not allowed for this unit. See "In-Banner Video" & Rich Media units below	0 - 4,999	
OTHER AD UNITS	<b>Super Leaderboard - Provisional Unit</b>	970x90 (optionally 970x66 is offered by some publishers)	Expansion not allowed for this unit	200 KB	Not allowed for this unit	Video not allowed for this unit see "In-Banner Video" & Rich Media units below	0 - 4,999	
	<b>Half Page</b>	300x600	Expansion not allowed for this unit	200 KB	Not allowed for this unit	15 sec max animation length Video not allowed for this unit. See "In-Banner Video" & Rich Media units below	0 - 4,999	
	<b>Button 2</b>	120x60	Expansion not allowed for this unit	80 KB	Not allowed for this unit	15 sec max animation length Video not allowed for this unit. See "In-Banner Video" & Rich Media units below	0 - 4,999	
	<b>Micro Bar</b>	88x31	Expansion not allowed for this unit	80 KB	Not allowed for this unit	15 sec max animation length Video not allowed for this unit. See "In-Banner Video" & Rich Media units below	0 - 4,999	





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CONTINUED

	CREATIVE UNIT NAME	INITIAL DIMENSIONS (WXH IN PIXELS)	MAXIMUM EXPANDED DIMENSIONS (WXH IN PIXELS)	MAX INITIAL FILE LOAD SIZE (SEE NOTE 2 BELOW)	HOST-INITIATED SUBLOAD (SEE NOTE 3 BELOW)	ANIMATION/VIDEO GUIDELINES (SEE VIDEO NOTES BELOW)	Z-INDEX RANGE	UNIT-SPECIFIC NOTES (SEE GENERAL AD REQUIREMENTS BELOW)
RICH MEDIA AD GUIDANCE	<b>In-Banner Video</b>	300x250 180x150 160x600 728x90 300x600	Expansion not allowed for these units	200 KB	100 KB	Minimum 24 fps for video 15 sec max length (unlimited user-initiated) 1.1 MB additional file size allowed for host-initiated video Unlimited file size for user-initiated video	0 - 4,999	
	<b>Expandable/Retractable</b>	300x250 to 600x250 180x150 to 600x150 160x600 to 600x600 300x600 to 600x600 728x90 to 728x315	Expansion must be user-initiated	200 KB	300 KB	Minimum 24 fps for video 15 sec max length (unlimited user-initiated) 1.1 MB additional file size allowed for host-initiated video Unlimited file size for user-initiated video	5,000 - 1,999,999 (for entire ad unit)	Retract Feature = Either Click to close/expand or Enable Mouse-Off Retraction
	<b>Pop Ups</b>	300x250 550x480 null	Expansion not applicable for these units	200 KB	300 KB	Minimum 24 fps for video 15 sec max length (unlimited user-initiated) 1.1 MB additional file size allowed for host-initiated video Unlimited file size for user-initiated video	N/A	In the browser bar, all Pop Ups must be clearly labeled with: Name of Network/Advertiser, Publisher, Browser Type [in this order] (ex.: "Advertising.com - CBS Market Watch - Microsoft Internet Explorer") "Close" control provided by browser window. Pop-ups display in their own browser window, so pop-up ad content has its own z-index
	<b>Floating</b>	Variable Initial Dimensions	Expansion not allowed for this unit	200 KB	300 KB	Minimum 24 fps for video 15 sec max length (unlimited user-initiated) 1.1 MB additional file size allowed for host-initiated video Unlimited file size for user-initiated video	2,000,000 - 2,999,999	Label = "Advertisement" Font = 8pt (11px) by 16pt (21px) "Close X" control required on expanded content, font = 8pt (11px) by 16pt (21px)
	<b>Between-the-Page (aka "Interstitial")</b>	Variable	Expansion not applicable for this unit	200 KB	300 KB	Minimum 24 fps for video 15 sec max length (unlimited user-initiated) 1.1 MB additional file size allowed for host-initiated video Unlimited file size for user-initiated video	N/A Unless the ad covers content on the target page, then use range for overlays: 6,000,000+	Label = "Advertisement" Font = 8pt (11px) by 16pt (21px) "Close" control provided by browser window if ad displays in its own browser window. If overlaid on target page, include "Close X" button. Font = 8pt (11px) by 16pt (21px)

Guidelines last updated: 09/29/2015

Abbreviations: px = pixel sec = seconds

### General Ad Requirements (Apply 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 videos without player controls, a control may be included for user to initiate audio.
- Hotspot:** Not to exceed 1/4 size of ad. Initiated when cursor rests on hotspot for at least 1 sec. Must NOT 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 not to exceed 30% CPU usage during host-initiated execution.
- Submission lead time: Minimum lead time for ad file submission is 6 days before campaign start.
- Max number of host-initiated file requests:** ad not to exceed 15 file requests during initial file load and host-initiated subload. Unlimited file requests allowed after user-interaction.

### HTML5 Note:

HTML5 introduces new options for developing ads. IAB has developed an "HTML5 for Digital Advertising" guide to help ad designers provide ads in HTML5 unit that will perform more successfully across the display advertising ecosystem. Please review this document and adopt its recommendations to help improve HTML5 ad performance in the industry.

### General Notes:

- File weight calculation:** All files for the ad (.html, .js, .css, images, etc.) must be included as part of the maximum file weight calculation for all file load limits. Shared libraries are also included as part of the file weight calculation unless otherwise exempted (see note 5). File weights are calculated after files have been compressed into gzip format (see note 7).
- Initial file load:** Includes all assets and files necessary for completing first visual display of the Ad.
- Host-initiated subload:** where allowed, additional files may load one second after the browser domContentLoadedEventEnd event. The ad should be able to "listen" for the browser domContentLoadedEventEnd event before subsequent files beyond the initial max file size may be loaded.
- User-initiated file size:** Ads that allow additional file size for host-initiated subload also allow for unlimited file load after user-initiated interaction. User initiation is the willful act of a user to engage with an ad. Users may interact by clicking or tapping the ad, and/or rolling over an ad (or a portion of an ad).
- Shared Libraries:** Publishers are encouraged to approve the use of shared libraries for HTML5 ads and exempt them from the ad's file weight calculation. As part of the publisher's certification process, both the shared libraries and their sources must be approved before any shared libraries may be exempted from the ad's file weight.
- Rising Star display:** Rising Stars ad units are designed to be the only rich media ad unit displayed on a webpage. Because of increased file load size, displaying a Rising Stars ad unit with any other rich media unit may compromise page-load performance. Other non-rich media ads should display without compromising performance.
- Ad file compression:** Ads should be compressed before being served to a site. The most universally compatible format for file compression in transit over the Internet is gzip.
- Rising Star Style Guides:** Please reference these updated guidelines for file sizes, and any references to Flash should be disregarded and replaced with HTML5.

### Video Notes:

- Required for ads with video:** Video may omit controls until user initiates interaction. Upon user interaction, video controls must include Play, Pause, Mute or volume control to zero (0) output for videos that expand out of initial ad upon interaction. For auto play videos that play in banner only Mute or volume control to zero(0) is required.
- HTML5 video controls:** To improve performance and reduce file size, use control attributes in the HTML5 video tag for controls instead of providing custom assets for displaying controls.
- Adaptive bitrate streaming:** HTML5 does not support streaming video, but it can simulate a streaming experience using adaptive bitrate streaming technologies such as HLS and MPEG-DASH. Formatting files for adaptive bitrate streaming enables a smoother viewer experience. Adaptive bitrate streaming uses short fragments (2-3 seconds) of the video at different quality levels and stores them in a playlist file such as M3U8. During playback, the player detects bandwidth at the start of each fragment and plays the fragment at the quality level best suited to the bandwidth and player environment. Common protocols for adaptive bitrate streaming include HTTP Live Streaming (HLS) in the US and MPEG-DASH in the EU.
- Video codec:** Use MPEG-4 (MP4) file formats for H.264-encoded video for a more seamless delivery across devices. The H.264 codec should use a Baseline profile to allow for more diverse execution in systems that range from a cellular connection on a mobile screen to a high-speed cable connection on an HTTP-connect TV screen. For audio, AAC is more widely supported (PCM audio is unsupported in Flash players).
- Video format:** At a minimum, the MP4/H.264 file format should be provided, but alternate files using formats such as WebM and VP8 may also be submitted.
- The MOOV atom:** Use the web-optimized setting when encoding the MP4 file, which sets the MOOV (movie) atom at the start of the file.



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MOBILISING STARS	<b>320x50 Adhesion Banner</b>	May launch from any IAB or MMA Standard Banner Phone Example: 320x50 or in expanded state as an interstitial	NA	50 KB	200 KB	15 sec max length (unlimited user-initiated) Video not allowed	0 - 4,999	Close button on Upper Right Hand Corner Must be compatible with MRAID 1.0 and MRAID 2.0
	<b>320x50 Pull</b>	320x50 May launch from any IAB or MMA Standard Banner Phone Example: 320x50 or in expanded state as an interstitial	Varies by device Expands to full-screen	50 KB	200 KB	Minimum 24 fps for video 15 sec max length for animation; 30 sec max length for video (unlimited user-initiated) 2.2 MB additional file size for host-initiated video (unlimited user-initiated)	0 - 4,999	Base Ad Component: - Expand CTA must be clearly defined. Tapping anywhere on the banner expands the ad. Full Page Ad Component: - Close button recommended size: 40x40, clearly located in upper right corner. Tapping collapses the unit and displays Base Ad Component. Wallpaper - Recommended size for phone: 320x480 Content Module - Recommended size for phone: 290x205. If feature contains multiple sections (i.e. photo gallery), page navigation dots represent number of pages available for that feature. Navigation Tray - Recommended size for phone: 320x100, nav icon: 80x75. See style guide for details on labeling, function, and required controls.
	<b>320x50 Slider</b>	May launch from any IAB or MMA Standard Banner Phone Example: 320x50 or in expanded state as an interstitial	Varies by device Expands to full-screen	50 KB	200 KB	Minimum 24 fps for video 15 sec max length for animation; 30 sec max length for video (unlimited user-initiated) 2.2 MB additional file size for host-initiated video (unlimited user-initiated)	5000 - 1,999,999	Base Ad Component: - Expand CTA must be clearly defined by "slide" or "swipe" icon. Tapping anywhere on the Base Ad Component expands the ad Full Page Ad Component: - Back Banner Bar: exact shape, size, position as Base Ad Component. - Recommended "back" cta size: 40x40 - Location: left corner of Back Banner Bar. - Tapping the back button will slide the unit horizontally closed and display the Base Ad Component See style guide for details on labeling, function, and required controls.
	<b>300x600 Filmstrip (Tablet)</b>	May launch from any IAB or MMA Standard Banner Phone Example: 320x50 or in expanded state as an interstitial	300x600	200 KB	300 KB	Minimum 24 fps for video 15 sec max length for animation; 30 sec max length for video (unlimited user-initiated) 2.2 MB additional file size for host-initiated video (unlimited user-initiated)	0 - 4,999	See style guide for details on labeling, function, and required controls.
	<b>320x50 Filmstrip Full Screen</b>	May launch from any IAB or MMA Standard Banner Phone Example: 320x50 or in expanded state as an interstitial	Varies by device Expands to full-screen	50 KB	200 KB	Minimum 24 fps for video 15 sec max length for animation; 30 sec max length for video (unlimited user-initiated) 2.2 MB additional file size for host-initiated video (unlimited user-initiated)	5000 - 1,999,999	Base Ad Component: - Expand CTA button must be included Full Page Ad Component: - Close button must be included in upper right corner. Use navigation icons to transition between content cells. See style guide for details on labeling, function, and required controls.
	<b>320x50 Full Page Flex (Interstitial or Inline)</b>	May launch from any IAB or MMA Standard Banner Phone Example: 320x50 or in expanded state as an interstitial	Varies by device Expands to full-screen	Phone: 200 KB Tablet: 300 KB	300 KB	Minimum 24 fps for video 15 sec max length for animation; 30 sec max length for video (unlimited user-initiated) 2.2 MB additional file size for host-initiated video (unlimited user-initiated)	5000 - 1,999,999	See style guide for details on labeling, function, and required controls.
	IMAGE ADS	<b>Smartphone Static Banner</b>	300x50	Expansion not allowed for this unit	50 KB	Not allowed for this unit	15 sec max length for animation Video not allowed for this unit. See "In-Banner Video" & Rich Media units below for video.	0 - 4,999
<b>Smartphone Static Wide Banner</b>		320x50	Expansion not allowed for this unit	50 KB	Not allowed for this unit	15 sec max length for animation Video not allowed for this unit. See "In-Banner Video" & Rich Media units below for video.	0 - 4,999	
<b>Smartphone Interstitial</b>		300x250	Expansion not allowed for this unit	200 KB	Not allowed for this unit	15 sec max length for animation Video not allowed for this unit. See "In-Banner Video" & Rich Media units below for video.	0 - 4,999	
<b>Feature phone Small Banner</b>		120x20	Expansion not allowed for this unit	5 KB	Not allowed for this unit	15 sec max length for animation Video not allowed for this unit. See "In-Banner Video" & Rich Media units below for video.	0 - 4,999	
<b>Feature phone Medium Banner</b>		168x28	Expansion not allowed for this unit	5 KB	Not allowed for this unit	15 sec max length for animation Video not allowed for this unit. See "In-Banner Video" & Rich Media units below for video.	0 - 4,999	
<b>Feature phone Large Banner</b>		216x36	Expansion not allowed for this unit	5 KB	Not allowed for this unit	15 sec max length for animation Video not allowed for this unit. See "In-Banner Video" & Rich Media units below for video.	0 - 4,999	



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	CREATIVE UNIT NAME	INITIAL DIMENSIONS (WXH IN PIXELS)	MAXIMUM EXPANDED DIMENSIONS (WXH IN PIXELS)	MAX INITIAL FILE LOAD SIZE (SEE NOTE 2 BELOW)	HOST-INITIATED SUBLOAD (SEE NOTE 3 BELOW)	ANIMATION/VIDEO GUIDELINES (SEE VIDEO NOTES BELOW)	Z-INDEX RANGE	UNIT-SPECIFIC NOTES (SEE GENERAL AD REQUIREMENTS BELOW)
MOBILE RICH MEDIA ADS	Smartphone Rich Interstitial	300x250	NA	200 KB	300 KB	Minimum 24 fps for video 15 sec max length for animation; 30 sec max length for video (unlimited user-initiated) 2.2 MB additional file size for host-initiated video (unlimited user-initiated)	0 - 4,999	Landing pages must be mobile optimized; include dimensions in file name; use MRAID specifications when appropriate.
	Smartphone Rich Banner Expandable	300x50	Varies by device Expands to full-screen	50 KB	200 KB	Minimum 24 fps for video 15 sec max length for animation; 30 sec max length for video (unlimited user-initiated) 2.2 MB additional file size for host-initiated video (unlimited user-initiated)	5,000 - 1,999,999 (for entire ad unit)	Control = "Close X" on expanded panel and "Expand" on collapsed panel Font = 8pt (11px) - 16pt (21px) Retract Feature = Either tap to close/expand Landing pages must be mobile optimized; include dimensions in file name; use MRAID specifications when appropriate.
	Smartphone Rich Wide Banner Expandable	320x50	Varies by device Expands to full-screen	100 KB	300 KB	Minimum 24 fps for video 15 sec max length for animation; 30 sec max length for video (unlimited user-initiated) 2.2 MB additional file size for host-initiated video (unlimited user-initiated)	5,000 - 1,999,999 (for entire ad unit)	Control = "Close X" on expanded panel and "Expand" on collapsed panel Font = 8pt (11px) - 16pt (21px) Retract Feature = Either tap to close/expand Landing pages must be mobile optimized; include dimensions in file name; use MRAID specifications when appropriate.

Abbreviations: px = pixel sec = seconds

## General Ad Requirements (Apply to all mobile 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 videos without player controls, a control may be included for user to initiate audio.

**Hotspot:** Not to exceed 1/4 size of ad. Initiated when cursor rests on hotspot for at least 1 sec. Must NOT 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 not to exceed 30% CPU usage during host-initiated execution.

**Submission lead time:** Minimum lead time for ad file submission is 6 days before campaign start.

**Max number of host-initiated file requests:** ad not to exceed 15 file requests during initial file load and host-initiated subload. Unlimited file requests allowed after user-interaction.

## HTML5 Note:

HTML5 introduces new options for developing ads. IAB has developed an "HTML5 for Digital Advertising" guide to help ad designers provide ads in HTML5 unit that will perform more successfully across the display advertising ecosystem. Please review this document and adopt its recommendations to help improve HTML5 ad performance in the industry.

## General Notes:

- File weight calculation:** All files for the ad (.html, .js, .css, images, etc.) must be included as part of the maximum file weight calculation for all file load limits. Shared libraries are also included as part of the file weight calculation unless otherwise exempted (see note 10). File weights are calculated after files have been compressed into gzip format (see note 11).
- Initial file load:** Includes all assets and files necessary for completing first visual display of the Ad.
- Host-initiated subload:** where allowed, additional files may load one second after the browser domContentLoadedEventEnd event. The ad should be able to "listen" for the browser domContentLoadedEventEnd event before subsequent files beyond the initial max file size may be loaded.
- User-initiated file size:** ads that allow additional file size for host-initiated subload also allow for unlimited file load after user-initiated interaction; however, bandwidth and device capabilities should be considered. In most cases 2.2 MB should be a sufficient maximum for complete file size. User initiation is the willful act of a user to engage with an ad, such as clicking or tapping.
- High resolution creative:** For initial file load, size and file weights listed are for a pixel density of 1. For higher resolution devices, higher file weights may be accepted but no more than twice (2x) the guideline. Verify higher load limits with your publisher. The ad-serving vendor should be able to detect device pixel density and bandwidth and deliver appropriate resolution creative.
- Full screen display:** dependent on device model and may be restricted by status bars or navigation menus on the OS, browser, and/or application. Use Flex Full page responsive specifications for all full screen mobile creative.
- Online/offline display:** online or offline ad experience warrant different ways to store and call assets. Consult with publishers about best practices specific to their applications.
- File weight reduction (30%) for low bandwidth:** Mobile phones have an array of data connection possibilities (Wi-Fi, 3G, 4G etc.) and plans that vary from carrier to carrier. This variance in connectivity, combined with the smaller processing power of handheld devices, result in the crucial need to optimize the ad unit to its smallest file weight possible, ensuring faster load times. For 3G and lower connections the file weights should be reduced by 30%. When applicable, targeting heavy rich media ad units to devices with strong fast connections such as Wi-Fi is recommended. This practice is especially encouraged with longer form video units.
- Mobile Optimized Experience:** All call to actions should be mobile-optimized. For example, when directing to a landing page it should be optimized for the mobile device with simplified navigation, readable content without the need to zoom and touch. Please see IAB's Tap Into Mobile for more guidance on mobile optimized landing pages: <http://www.iab.com/tapintomobile>.
- Shared Libraries:** Publishers are encouraged to approve the use of shared libraries for HTML5 ads and exempt them from the ad's file weight calculation. As part of the publisher's certification process, both the shared libraries and their sources must be approved before any shared libraries may be exempted from the ad's file weight.
- Ad file compression:** Ads should be compressed before being served to a site. The most universally compatible format for file compression in transit over the Internet is gzip.
- Rising Star Style Guides:** Please reference these updated guidelines for file sizes, and any references to Flash should be disregarded and replaced with HTML5.

## Video Notes:

**Required for ads with video:** Video may omit controls until user initiates interaction. Upon user interaction, video controls must include Play, Pause, Mute or volume control to zero (0) output for videos that expand out of initial ad upon interaction. For auto play videos that play in banner only Mute or volume control to zero(0) is required.

**HTML5 video controls:** To improve performance and reduce file size, use control attributes in the HTML5 video tag for controls instead of providing custom assets for displaying controls.

**Adaptive bitrate streaming:** HTML5 does not support streaming video, but it can simulate a streaming experience using adaptive bitrate streaming technologies such as HLS and MPEG-DASH. Formatting files for adaptive bitrate streaming enables a smoother viewer experience. Adaptive bitrate streaming uses short fragments (2-3 seconds) of the video at different quality levels and stores them in a playlist file such as M3U8. During playback, the player detects bandwidth at the start of each fragment and plays the fragment at the quality level best suited to the bandwidth and player environment. Common protocols for adaptive bitrate streaming include HTTP Live Streaming (HLS) in the US and MPEG-DASH in the EU.

**Video codec:** Use MPEG-4 (MP4) file formats for H.264-encoded video for a more seamless delivery across devices. The H.264 codec should use a Baseline profile to allow for more diverse execution in systems that range from a cellular connection on a mobile screen to a high-speed cable connection on an HTTP-connect TV screen. For audio, AAC is more widely supported (PCM audio is unsupported in Flash players).

**Video format:** At a minimum, the MP4/H.264 file format should be provided, but alternate files using formats such as WebM and VP8 may also be submitted.

**The MOOV atom:** Use the web-optimized setting when encoding the MP4 file, which sets the MOOV (movie) atom at the start of the file.



# DISPLAY ADVERTISING GUIDELINES: Z-INDEX GUIDELINES

Z-INDEX RANGE	CONTENT TYPE	DETAILS
< 0	Background Elements	None
0 - 4,999	Main Content, Standard Ads	Standard ad tags in place with regular content. Includes OBA Self-Regulation Message (CLEAR Ad Notice)
5,000 - 1,999,999	Expanding Advertising	The entire expandable ad unit should be set within this range
2,000,000 - 2,999,999	Floating Advertising	Over The Page ads (OTP's)
3,000,000 - 3,999,999	Pop-up Elements	Chat windows, message notifications
4,000,000 - 4,999,999	Non-anchored Floating Elements	Survey recruitment panels
5,000,000 - 5,999,999	Expanding Site Navigation Elements	Drop down navigation, site warnings, etc. Only the expanding portion of navigation elements should be included on this level.
6,000,000+	Full-page Overlays	Full-window Over-the-Page (OTP) ads and Between-the-Page ads IF they cover page content

Note: ad designers should consult each publisher individually for their specific Z-index guidelines



# DISPLAY ADVERTISING GUIDELINES: POP-UP GUIDELINES

<b>Definition</b>	Any advertising experience where visiting a website in an initial browser window initiates a secondary browser window to deliver an ad impression directly above the initial browser window.				
<b>Frequency</b>	Each user should be exposed to no more than one pop-up ad for each visit to an online site.				
<b>Labeling</b>	Pop-ups should be clearly labeled with a header for the browser window with: 1. the network or advertiser name, 2. publisher name, and 3. browser type (if applicable). Example: " <a href="#">Advertising.com</a> - CBS Market Watch - Microsoft Internet Explorer"				
<b>Specifications</b>	<b>Unit Type</b>	<b>Dimensions (WxH in Pixels)</b>	<b>Maximum File Load Size</b>	<b>Audio/Video Initiated</b>	<b>Close Box</b>
	Pop-Up	300x250	40 KB Initially 100 KB Subsequent Polite File Load	User-Initiated	Controlled by browse
Pop-Up Large	550x480	2.2 MB for User-Initiated File Load Unlimited User-Initiated Streaming Video			





# DISPLAY ADVERTISING GUIDELINES: GLOSSARY OF TERMINOLOGY

NOTE: THE FOLLOWING DEFINITIONS DESCRIBE TERMINOLOGY AS IT SPECIFICALLY RELATES TO INTERACTIVE DISPLAY ADVERTISING CREATIVE DESIGNED FOR INTERNET WEBSITES.

TERM	DEFINITION
<b>Animation</b>	A programmatically generated display of sequential images, creating the illusion that objects in the image are moving. Not digital video, as it relates to this document (see the definition for "Video").
<b>Audio</b>	The audible file that may accompany ads. Advertising audio should never play without user-initiation.
<b>Banner</b>	Also known as "display ads", banner advertisements are a form of graphical ads embedded into a webpage, typically including a combination of static/animated images, text and/or video designed to convey a marketing message and/or cause the user to take an action. Banner dimensions are typically defined by width and height, represented in pixels.
<b>Between-the-Page</b>	Also known as "interstitial" ads, between-the-page ad units display as a user navigates from one webpage to the next webpage. The ad appears after the user leaves the initial page, but before the target page displays on the user's screen. Typically, the ad is self-contained within its own browser window, but may also appear briefly as an overlay on the target page rather than in its own browser window.
<b>Billboard</b>	An IAB Universal Brand Package ad unit template designed with options for rich interactivity to display prominently inline with Publishers' webpage content. A distinct feature of the Billboard is a close button that a user may click to collapse the ad completely if the user doesn't want to see the ad.
<b>Bitrate</b>	The rate of bits processed per unit of time, commonly measured in bits per second (bps), kilobits per second (Kbps), or megabits per second (Mbps). The bitrate is one of the biggest factors in audio or video quality.
<b>Button 2</b>	A small rectangular standard ad unit with the size 120x60 pixels.
<b>Byte</b>	A unit of digital information in computing and telecommunications that most commonly consists of eight bits. Historically, a byte was the number of bits used to encode a single character of text in a computer and for this reason it is the basic addressable element in many computer architectures.
<b>Caching</b>	The practice of temporarily storing files on local servers for quick retrieval the next time the file is needed. Cached files supply an old copy that may not be up to date with the file stored at the original source, but are often necessary for improving page load performance.
<b>Campaign</b>	The advertising period in which an ad delivery strategy is executed.
<b>CDN</b>	An acronym for Content Distribution Network, a CDN is a system of geographically dispersed servers used to provide web content to a browser or other client. Files are strategically pulled from a server on the network based on the location of the user, the requesting server, and the delivery server of the CDN to provide the best delivery performance.
<b>CLEAR Ad Notice</b>	CLEAR is an acronym for "Control Links for Education and Advertising Responsibly," a set of technical guidelines developed by the Interactive Advertising Bureau (IAB) and the Network Advertising Initiative (NAI) to empower members of the online advertising community to communicate their presence and behavioral advertising targeting practices (if any) to consumers in a simple and direct manner. Derived from: <a href="http://www.iab.com/media/file/CLEAR_Ad_Notice_Final_20100408.pdf">http://www.iab.com/media/file/CLEAR_Ad_Notice_Final_20100408.pdf</a>
<b>Click</b>	An interaction between a website visitor and the browser in which the website visitor uses a device, such as a mouse, to move the cursor (or pointer) to an active area of the screen and then deliberately interacts with that area by clicking a button on their device, triggering an event. In the case of touch-screen devices, the user "clicks" by touching the active area with their finger or a stylus.
<b>Close X</b>	A creative control that enables a user to close an ad (remove it from view) or to reduce an expanded panel back to its original size.
<b>Collapse</b>	An event where the expanded panel of an expandable ad reduces to its original size, or disappears completely.
<b>Compression</b>	The practice of packaging a digital file so that it uses less storage space.
<b>Controls</b>	Active elements of an ad that enable a user to control the advertising experience. Examples of common controls include the "Close X" button in an expandable ad or the Play/Pause/Mute buttons in a video player.
<b>CPU</b>	CPU is an acronym for Central Processing Unit, the key component of a computer system, which contains the circuitry necessary to interpret and execute program instructions.
<b>CPU Usage %</b>	A guideline for the amount of central processing power used to display advertising content compared to what's available on an individual's computer. CPU usage percentage can be measured directly, during the execution of an online ad. In addition to file size, the complexity of drawings, gradients, slow moving animations and detailed moving elements can affect the number of calculations the CPU must make for each frame.
<b>CPU Spike</b>	A brief increase in central processing power, sustained for no more than a few seconds, experienced while "heavy" content is loaded/executed.
<b>Creative</b>	An advertising unit created by an ad designer, in accordance with publisher specifications and guidelines, for the purpose of communicating a marketing message to that publisher's audience. One creative may consist of multiple files in various formats, such as standard images, animation, video, execution files (.html, .js, etc.) and other files that work together for an interactive experience.
<b>Creative Dimensions</b>	Measured in pixels, the width and height of an ad unit (WxH). The width is always the first dimension listed, followed by the height dimension (i.e. an ad that is 300x250 is 300 pixels wide by 250 pixels high).
<b>Cursor</b>	The graphical representation of a "pointer" on a user screen, controlled by the user's interaction with controlling devices such as a mouse, mouse pad, stylus or other input hardware.
<b>Expandable Ads</b>	Rich media ads that can be enlarged to dimensions beyond the initial dimensions of the placement they fill on the webpage. The user initiates expanding events, sometimes after the ad initially expands briefly on its own to catch the user's attention.

TERM	DEFINITION
<b>Expanded Dimensions</b>	The secondary dimensions of an expanding ad unit (after the ad is expanded). Initial dimensions are fit to the dimensions of the placement. Then, either by auto-play or by user interaction, the ad unit expands to its secondary dimension.
<b>File requests</b>	In the context of displaying digital content, the browser loads code that contains instructions about where to retrieve files such as text, images, videos, and any other components that contribute to the display experience. Each time the browser must retrieve content from another server, a file request is made. Too many file request may reduce page load performance.
<b>Filmstrip</b>	An IAB Universal Brand Package ad unit template that is 350x3000 pixels, divided into five 350x600 pixel segments that scroll by user interaction through a 350x600 pixel placement "window."
<b>Flash™</b>	Software and tools developed by Adobe used to build, generate, and play animated files. Also used to define the creative files generated by the program. In order for Flash files to execute in a browser, the Flash player plug-in must be installed. However, Flash development tools can also generate files in HTML5 format so that no plug-in is required for execution.
<b>FPS</b>	FPS is an acronym for Frames Per Second, the metric used to indicate the frame rate of animated or video creative content.
<b>Frame Rate</b>	The rate at which video frames or animated images display as the video or animated file executes, measured as the number of frames per second (fps).
<b>GPU</b>	GPU is an acronym for Graphics Processing Unit. In modern computers, the GPU handles graphical processing, decreasing the processing burden handled by the CPU.
<b>Gzip</b>	Automatic compression of creative assets for an ad when delivering from an ad server to a web page or application. The key difference between .zip files and gzip is that zip is used for storing files, and gzip is used for compressing files that are in transmission from one server to another.
<b>H.264</b>	A video coding format that uses a block-oriented, motion-compensation-based video compression standard. <a href="http://en.wikipedia.org/wiki/H.264/MPEG-4_AVC">H.264/MPEG-4 AVC</a> is one of the most common formats used for recording, compressing, and distributing video content. For more information see: <a href="https://en.wikipedia.org/wiki/H.264/MPEG-4_AVC">https://en.wikipedia.org/wiki/H.264/MPEG-4_AVC</a>
<b>HLS</b>	An acronym for HTTP Live Streaming is an HTTP-based media streaming communications protocol implemented by Apple Inc. It works by breaking the overall stream into a sequence of small HTTP-based file downloads, each download loading one short chunk of an overall potentially unbounded transport stream. As the stream is played, the client may select from a number of different alternate streams containing the same material encoded at a variety of data rates, allowing the streaming session to adapt to the available data rate. At the start of the streaming session, it downloads an extended M3U playlist containing the metadata for the various sub-streams [that] are available. See <a href="http://en.wikipedia.org/wiki/HTTP_Live_Streaming">http://en.wikipedia.org/wiki/HTTP_Live_Streaming</a> for more information.
<b>Host-initiated</b>	Any activity that is auto-initiated.
<b>Host-initiated sub-load</b>	The additional file limit allowed for rich media and rising star units that is auto-initiated one second after the domContentLoadedEventEnd occurs (web page content has been loaded) on the host computer or device.
<b>Hot Spot</b>	A "hot spot" is an area of an ad unit, which when rolled-over/rolled-on by the user's cursor, such rollover triggers an event (i.e. expand ad). The hotspot should never be larger than 1/4th the size of the original (collapsed) ad unit. The trigger event should not occur unless the user's cursor rests in the hotspot zone for at least 1-second. Hotspots should never initiate audio (audio should only be initiated by a click). When hotspots are used, the trigger event should stop immediately upon the user's cursor leaving the hotspot zone (i.e. ad collapses), and the ad unit should return to its original state.
<b>HTML5</b>	An acronym for Hypertext Markup Language, version 5. HTML5 extends earlier versions to include tags for processing video, audio, canvas, an other embedded audio and video items without requiring proprietary plug-ins and APIs. HTML5 has been used as an alternative to developing and executing interactions similar to those using Adobe Flash but with very different technology.
<b>IBA</b>	Interest-based advertising -- which is also sometimes called "online behavioral advertising" -- uses information gathered about a site user's visits over time and across different websites or applications in order to help predict preferences and show ads that are more likely to be of interest to you. For example, a sporting goods manufacturer might work with an advertising network that collects and uses interest-based advertising information to deliver ads to the browsers of users that have recently visited sports-related sites, or an airline might direct ads to users that recently visited mobile travel apps. Definition from <a href="http://www.aboutads.info">aboutads.info</a> site: <a href="http://www.aboutads.info/how-interest-based-ads-work">http://www.aboutads.info/how-interest-based-ads-work</a>
<b>In-Banner Video</b>	A video delivered as part of (inside of) the display ad creative for a given placement rather than initiating the use of a video player.
<b>Initial Dimension</b>	The original width and height (in pixels) of an expanding ad. Expanding ads are designed to expand to dimensions larger than the initial dimensions.
<b>Initial File Load</b>	Includes all assets and files necessary (.html, .js, .css, .woff, images, etc.) for completing first visual display of the Ad. The initial file load size of an ad is limited in order to preserve the page load performance and thus the user's web browsing experience. For non-rich media ads, the initial file load size limit is all that's allowed for the ad.
<b>Interstitial</b>	See 'Between-the-Page'
<b>JavaScript libraries</b>	A collection of pre-written code used to simplify development of web-based applications.
<b>Kilobyte (KB)</b>	A multiple of the unit 'byte' for digital information, used to quantify computer memory or storage capacity equal to a 1,000 bytes (or technically, 2^10 = 1,024 bytes). For the purposes of this document, this measure relates to creative file size. (See definition for Byte)
<b>Labeling Requirements</b>	The minimal requirements for distinguishing an online advertisement from regular webpage content.





# DISPLAY ADVERTISING GUIDELINES:

# GLOSSARY OF TERMINOLOGY

## CONTINUED

NOTE: THE FOLLOWING DEFINITIONS DESCRIBE TERMINOLOGY AS IT SPECIFICALLY RELATES TO INTERACTIVE DISPLAY ADVERTISING CREATIVE DESIGNED FOR INTERNET WEBSITES.

TERM	DEFINITION
<b>Megabyte (MB)</b>	A multiple of the unit 'byte' for digital information, used to quantify computer memory or storage capacity equal to 1,000 kilobytes (or technically, $2^{20} = 1,048,576$ bytes). For the purposes of this document, this measure relates to creative file size. (See definition for Byte)
<b>Minification</b>	The practice of removing unnecessary characters from code to reduce its size, removing unnecessary spacing, and optimizing the CSS code; thus improving load times.
<b>moov atom</b>	A video data object in a media file used to execute the video. The moov (or movie) atom should be placed at the beginning of a video file to ensure proper execution.
<b>Mouse-off</b>	The act of a user moving the cursor away (off) from the hot spot of an ad. Mouse-off by a user may trigger an event, such as collapsing an expanding panel or stopping any animation in progress.
<b>Mouse-over</b>	The act of a user moving the cursor and resting it on the hot spot of an ad for at least one second. Mouse-over may trigger an event such as expanding the ad or initiating an animated sequence within the ad. Mouse-over may NOT initiate audio play.
<b>MP4</b>	A digital multimedia format used to store video and audio, but may also include features such as subtitles, chapter details, and other data related to the video or audio file. The filename extension for MPEG-4 files is .mp4.
<b>MPEG</b>	A set of standards for audio and video compression and transmission established by the Moving Picture Experts Group.
<b>MPEG-DASH</b>	An acronym for MPEG Dynamic Adaptive Streaming over HTTP. This adaptive streaming technique allows for a streaming experience using progressive download of several small chunks of video at different bitrates. An HTTP-connected video player (the client) detects the bandwidth at each chunk of time (about 3-5 seconds) and determines which quality level to download and play for the small duration allotted.
<b>MRAID</b>	An acronym for Mobile Rich Media Ad Interface Definition. MRAID is a protocol that enables communication between an ad and a mobile application in order to execute interactions such as geolocation, ad resizing, and accelerometer functions among others.
<b>OBA</b>	See "IBA"
<b>OBA Self-Regulation</b>	See "IBA"
<b>Overlay</b>	An ad unit that displays over the webpage content briefly when initiated.
<b>Pause</b>	A video, animation or audio control that enables users to stop the video, animation, or audio from playing until the user is ready to resume play.
<b>Pixel (as a unit of measure)</b>	The smallest unit of measure for graphical elements in digital imagery, used as the standard unit of measure for ad creative (i.e. 300x250 pixels). Pixels may also represent x/y coordinates relevant to a given space, such as the browser window, an application workspace or the user's computer screen. (See also "Tracking Pixel")
<b>Pixel Density</b>	The number of pixels displayed on the screen within an inch (pixels per inch or PPI) or within a centimeter (pixels per centimeter or PPCM). Screen pixel density varies by device with older monitors displaying 67 - 130 PPI. Mobile devices often exceed that at 300+ PPI. Pixel density of 163 PPI is referred to as pixel density of 1 in this document.
<b>Play</b>	A video, animation or audio control that enables a user to initiate (or avoid initiating) the video, animation or audio of an ad.
<b>Polite file load</b>	Withholding a portion of the total ad creative file size (besides any initial file load size) from loading on a page until publisher content has loaded. With the release of the Display Creative Guidelines in 2015, polite file load has been replaced "Host-initiated subload." See Host-Initiated Subload for definition.
<b>Pop-up Ad</b>	Any advertising experience where visiting a website in an initial browser window initiates a secondary browser window to deliver an ad impression directly above the initial browser window.
<b>Portrait</b>	An IAB Rising Star ad unit template that uses up to three interactive modules chosen (by the ad designer) from a variety of modular application options in a 350x1050 pixel space.
<b>Progress Bar</b>	A video or animation control that shows users the progression of the video or animation in relation to its total duration.
<b>Progressive Load Video</b>	A distribution method for serving video files in which the video file downloads progressively into the cache of a user's computer, much the same way images and other content elements are downloaded. HTML5 files use progressive download for video files, but streaming methods can be simulated using adaptive bit streaming technologies such as HLS and MPEG-DASH.
<b>Pushdown</b>	An IAB Rising Star ad unit template designed for rich interaction in a space similar to, but larger than, an expanding leaderboard, with initial dimensions of 970x90 pixels and expanded dimensions of 970x415 pixels. When the ad is expanded, it "pushes" page content down rather than displaying over the top of page content as most expandable ads do.
<b>Resolution</b>	The quality of an image or video file often determined by the number of pixels displayed on the screen and usually annotated as a pixel width and height dimension. However, resolution can be measured in a number of ways and takes into account pixel aspect ratio, pixel density, and other factors that determine the viewing quality of the file.
<b>Retraction</b>	An event programmed into an expandable ad that causes the ad to be reduced to its original dimensions (i.e. the expanded portion of the ad retracts).
<b>Rising Stars</b>	IAB invited companies and individuals to submit ad templates designed to drive brand equity. Six templates were chosen to be validated by the market. Universal Brand Package Display Ad Units are designed to be the only ad on a page. Their file load limits are larger than for other ads, so not only would a Universal Brand Package Ad Unit overshadow any other ads on the page but they would also compromise the performance of the page should other rich media ads be allowed to load simultaneously.

TERM	DEFINITION
<b>Rollover</b>	The willful pause of the user's cursor on the target portion of the creative (the "hot spot"), such pause lasting at least one second in duration, before an action may be initiated by the ad (i.e. trigger an expand event, etc.). This one-second pause/delay requirement prevents unwanted, user-initiated actions and false reporting of user engagement. Rollover may NOT initiate audio.
<b>Shared Libraries</b>	In digital advertising, shared libraries are collections of pre-written code and resources that are used for implementing features and functions for an HTML5 ad. Instances of such resources that are downloaded to the browser from a specific server, like a CDN, are cached on the browser. Once cached, shared libraries can be shared with other ads that reference the library and the host server.
<b>Sidekick</b>	An IAB Rising Star ad unit template initially displayed as one of three standard ad unit dimensions, but upon user initiation, "pushes" publisher content to the left to display a canvas of up to 970x550 pixels full of rich interaction.
<b>Skyscraper</b>	A standard ad unit with dimensions of 160x600 pixels.
<b>Slider</b>	An IAB Rising Star ad unit template designed with an overlay "slider" (90 pixels high) that rests at the bottom of a publisher's page and when prompted by user interaction, slides page content to the left for a canvas of 970x550 pixels full of rich interaction possibilities for user engagement.
<b>Standard Ad Units</b>	A set of ad specifications for standard image or animated in-page ad units that establish a framework for advertising inventory and webpage design.
<b>Streaming Video</b>	A distribution method for serving video files such that the video is played over a persistent connection between the browser and the ad server. Versions of the file at different levels of compression (quality) can be served based on detection of the user's Internet bandwidth. HTML5 files cannot be streamed and rely on adaptive bitrate streaming technologies such as HLS and MPEG-DASH.
<b>Submission Lead Time</b>	The number of business days (non-weekend/non-holiday days) prior to a campaign going live in which a publisher needs to validate advertiser submitted creative(s) for a campaign.
<b>Supporting files</b>	In the context of HTML file loads, supporting files are files that the browser needs to reference in order to execute display of file contents and any interactions. Examples of supporting files include JavaScript libraries, font libraries, CSS files, and others.
<b>SWF</b>	Acronym for Shockwave Flash™. ".swf" is the file naming extension used for animated files compiled using Adobe Flash™ software. HTML cannot execute .swf files without the browser-installed Flash player plug-in. For this reason, many content and ad providers are moving to the HTML5 format for more efficient execution of interactive media files.
<b>Tracking Pixel</b>	A 1x1 pixel-sized transparent image that provides information about an ad's placement. In many cases, a tracking pixel is used to notify an ad tracking system that either an ad has been served (or not served, in some cases) or that a specific webpage has been accessed. Also known as: beacon, web beacon, action tag, redirect, etc.
<b>Universal Ad Package (UAP)</b>	A set of four ad units (728x90, 300x250, 160x600 and 180x150 pixels) offered by UAP-compliant publishers as a 'package' where ads in in these four formats are used collectively across the publisher's site, enabling advertisers to reach more of the publisher's audience.
<b>Universal Brand Package (UBP) Display Ad Units</b>	"See "Rising Star Ad Units"
<b>User</b>	An anonymous person who uses a web browser to access Internet web content.
<b>User Initiation</b>	The willful act of a user to engage with an ad. Users may interact by clicking on the ad, and/or rolling over an ad (or a portion of an ad). When a user engages the ad using a rollover action, the user's cursor must rest on the hotspot for at least one second before any action may be initiated in the ad. See the definition for rollover for more information.
<b>Video (aka "Digital Video")</b>	In online advertising, the digital recording of a physical event or animated files that have been transcribed into a digital video format.
<b>Volume</b>	A control that enables users to adjust the audio output of ad creative. Volume controls should always allow adjustment down to zero (0) output.
<b>VP8</b>	A video compression format owned by Google and created by ON2 Technologies. Latest version is VP9.
<b>WebM</b>	WebM is a video file format. It is primarily intended to offer a royalty-free alternative to use in the HTML5 video tag. The development of the format is sponsored by Google, and the corresponding software is distributed under a BSD license.
<b>Z-index</b>	Enumerated layers of elements and content on a publisher's webpage. Consideration of the z-element in page content design such as navigation, imagery, and ads is important for providing a seamless experience when page content overlaps (i.e. an expanding ad with a z-index that is lower [on the z-index scale] than navigational elements may give the appearance that page navigational elements are showing through the expanded portions of the ad).