



ADVERTISING CREATIVE GUIDELINES FOR DISPLAY AND MOBILE: UPDATED FOR HTML5

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INTRODUCTION

RELEASE NOTES

The guidelines in this document are an updated version of the 2016 HTML5 IAB AU Creative Guidelines with comprehensive recommendations of digital display advertising experiences across web and apps.

WHAT'S NEW?

- More clarification on how file sizes are calculated.
- Introduced an allowance & file weight spec for Ad Verification Scripts.
- Introduced a central access point on the IAB Website for best shared libraries to be use.
- Included general display ad guidelines & HTML5 guidelines into the one doc for easier access.
- Best practises & considerations.

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CREATIVE DISPLAY GUIDELINES

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

These creative updates are the result of testing diverse HTML5 ad creatives 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 in the U.S. to establish the new specifications, and ratified local by the IAB Australia HTML5 Working Group.

Please be advised that these IAB Australia guidelines represent an industry recommendation. Accordingly, not all publishers, nor all IAB Australia 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.

CREATIVE DESIGN CONSIDERATIONS

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.

- 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.
- New specification criteria were determined based on the one second to visual display goal with polite load / subload and file request limits that support HTML5

ad combinations of multiple file types, video lengths, and animation frames.

User Experience and Load Performance

- Use light weight files during initial load of the page (Static image/first frame of creative)
- Minimise render blocking scripts like CSS, JavaScript during initial load.
- Use of cached/speed shared libraries on initial load.
- Use subload for ad experiences that require heavy file weights.
- Minimize number of files requested during initial load.
- Sprites, SVG or compressing images using 'Save for Web'.
- Make large file downloads user initiated such a video files like MP4's.

CPU usage

Avoid animation effects that are CPU intensive, avoid or reduce the usage of:

- Loops and timers.
- setInterval.
- setTimeout.
- Avoid eval() to avoid security risks.
- Avoid global variables.

Animation Duration

Global benchmarks suggest that the average "time in view" for a creative is under 30 seconds, to deliver the full message for an advertiser a 15 sec creative will optimise the amount of users seeing the entirety of creative including the Call-to-Action (CTA).

Minifying Files

Minifying files makes a huge difference and can help improve performance. Please consider minifying HTML, CSS and JS using a suitable minifier of your choice.

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File Ad Requests

Look to where you can help reduce the total HTTP footprint and check which files are necessary, Can you leverage code already incorporated via the shared libraries or maybe it's possible for you to add your code to an already existing custom script?

Web Fonts

- Consider only loading the characters that the creative is using, Note that some CDN providers already host these.
- Custom web fonts can add extra weight, only use custom fonts when required.

GENERAL DISPLAY BANNER AD REQUIREMENTS

Animation

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.

- Length of animation must not exceed 15 seconds unless user initiated.
- Animation is recommended to be part of subload.
- Animation can loop twice (play through 3 times). No continuous looping permitted.
- JavaScript used for animation must be executed as asynchronous load and CSS used must be inline.
- Flashing, high contrast, fast moving and bright colour animation are not allowed.
- Frame Rate: 24fps.

Ad Expansion

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

- Ad expansion must be user initiated.
- The action for ad expansion must be a complete discrete user action, e.g.

Click and Tap are the most common and recognised user actions.

- Hover or Rollover must not be used as actions for ad expansion.
- Expanded ad must have a clear and discrete cancel or close button to allow user to dismiss the ad when desired.
- Creative designers are advised to consult directly with publishers for their individual z-index guidelines. The accidental “collision” of competing elements on a webpage that share the same z-index value leads to a poor user experience and creative performance, in the form of distorted or mangled images and text.

Ad Verification Scripts

A growing number of advertisers are using ad verification vendors to monitor viewability, brand safety and ad fraud across their creatives. With this comes additional script weight that needs to be factored into the file weight calculations of the creative. Our recommendation, based upon consultation with both Integral Ad Science and Moat locally, is that this script weight should not exceed 70kB on initial load where post-bid brand safety blocking functionality has not been enabled.

If this script weight must exceed 70kB, then be aware that any additional weight will impact the overall file weight which may, in turn, restrict the creative size itself. Work with your verification vendor to understand the differences between their pre-bid and post-bid offerings and any impact that this may have, along with anything else, on their related script weights.

Please also note that the dedicated working group within the Standards & Guidelines council feels strongly that a 50kB limit should be achievable in the near future and will be reviewing these specifications again in 6-9 months' time.

For additional clarity on this and some recommendations regarding verification scripts, please see below:

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- Initial load recommendations:
 - 80kB + 70kB (verification & viewability scripts)
 - 100kB (exempt Shared libraries)
- Use highly cacheable assets served from a CDN - these include; images, scripts and stylesheets to help reduce overall download footprint. This will result in faster rendering times and overall improvement to measurement and viewability.
- For complex rich media creatives try to avoid downloading all assets at once instead only loading the minimum required to render the initial creative. Once rendered then additional assets can be loaded in the background. This will result in faster rendering times and improvement to measurement and viewability.
- If the creative requires significant bandwidth consider introducing a loading screen as feedback to the user that something is about to be displayed on screen. This will increase the probability that someone will remain to see the rendered content which will in turn increase viewability.
- Preference to serve all 3rd party verification vendor scripts inside a friendly environment enable independent measurement of the ad session or if cross-domain provide alternative mechanism enabling 3rd parties to provide measurement - i.e. for viewability provide HTML node reference which represents the creative which is accessible to the script.

Audio

Audio in ads must be muted. To allow for audio initiation in ads, a control may be included for the user to initiate audio.

CPU Load

Ads should be developed to perform smoothly and not interfere with site or app performance. 30% CPU load maximum (based on the average CPU of the user base) per active ad.

Close buttons

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.

- The close or cancel button must be on the top right corner of the ad.
- 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.
- The close button must be available from the start of the ad experience.

Defining ad space

Ad unit content must be clearly distinguishable from publisher or unpaid content on the page (for example an ad unit must have clearly defined borders so it is not confused with normal page content). include a 1px solid border with at least 20% contrast against its environment

File Ad Requests

Ad should not exceed 15 file requests during initial file load. Additional files can be loaded as necessary during subload and user initiated loads. 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 optimise the number of requests being made to the server to reduce the impact on performance.

File Ad Requests TIP

- Look to where you can help reduce the total HTTP footprint & check which files are necessary, can you leverage code already incorporated via the shared libraries or maybe it's possible for you to add your code to an already existing custom script?

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- Check that Shared Libraries are not implemented twice, sometimes an ad-server may already be including these already.
- Outside of Shared libraries, if you are using your own CSS or JS files hosted on a CDN you should consider where possible combining files of common file types.
- In some cases, it may be practical and beneficial for you to utilise CSS Sprites, in this way and manner if used correctly i.e. having smaller 'placeholder-type' images will ensure reduce the number of HTTP requests per ad, improving performance but still creating effective highly impacting advertisements.

GZIP

All assets for HTML5 ads must be packaged together for delivery. To optimise 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.

Initial Load Ad

Use light weight files during initial load of the page (Static image/first frame of creative). A blank 1x1 pixel is not allowed as this will cause a blank space to load on page until the larger sub/polite loaded assets render causing a poor user experience and may impact campaign performance. Consider using a lightweight placeholder image instead before subload assets are rendered.

Browser Support

Please use the following site to ensure cross browser functionality:
<http://caniuse.com/#search=video>

Mobile Browser Support

Please use the following site to ensure cross browser functionality:
<http://mobilehtml5.org>

Secure Ad Serving Requirements

All assets must be SSL compliant - securely served (https://)

Back Up Images

A backup image is required to display for unsupported environments, such as older versions of Internet Explorer.

Click Tag Implementation

Click Tag insertion and validation

The most common issues experienced with site hosted creative are:

- Missing clicktags.
- Incorrect clicktags.

Creative has mix of secure and insecure URLs

Review URLs in code, and return to the creative developer for resolution.

Div created for borders blocks click tag Div

Return to the developer for a resolution.

(See figure 1 on next page - ClickTAG recommendations for creative developers.)

DFP Clicktag

Here's an example of a click tag inserted in an HTML document:

```
<html>
<head>
<meta name="ad.size" content="width=300,height=250">
<script type="text/javascript">
var clickTag = "http://www.google.com"; </script>
</head>
```

[The rest of your creative code goes here.] </html>

Your creative must use the click tag variable as the click-through URL:

```
<a href="javascript:window.open(window.clickTag)">

</a>
```

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(Figure 1) ClickTAG recommendations for creative developers

Missing clicktags

Click Destination Methods:
Use the clickTAG variable (Case Sensitive) for the click event, regardless of the method of navigating within the browser.

There are two methods for setting up an href to click through to your clickTAG:
Method 1 is to give the anchor tag a unique ID and assign the href dynamically after page load via JavaScript:

HTML

```
<a id="clickArea" target="_blank"></a>
```

JavaScript

```
var clickArea = document.getElementById("clickArea");
```

```
clickArea.href = clickTAG;
```

Method 2 is to use an onclick JS event in your href:

```
<a onclick="location.href=window.clickTAG" target="_blank"> </a>
```

FILE REQUESTS AND CALCULATION

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.

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 optimise 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.

Initial Load

Initial Load is defined as all files requested by the ad to render the creative 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) for creative rendering and management before the load event is dispatched by the window object. Cached Shared libraries that are hosted by approved 3rd Party Vendors are not included in the Max File Size as long as this weight does not exceed 100KB.

Subload

Subload is defined as all files requested by the ad after the load event is dispatched by the window object. It includes all files requested by the ad (auto

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initiated without any user interaction) to the page (image, HTML5, JS, CSS, Sprite sheets, Video files) for the purpose of creative rendering and management. Subload must start after the load event has been dispatched by the window object of the page or the ad i-frame.

User Initiated Load

User Initiated Load is the file weight of all assets loaded 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 click to play or expand.

Exempt from Calculations

Cached Shared Libraries Publishers and Advertisers 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 and page load performance since the previously used shared library will not need to be downloaded again.

For the this release, file weights for these cached/speed libraries will be given an exemption from file calculations of up to 100KB on initial load.

DoubleClick example

https://s0.2mdn.net/ads/studio/cached_libs/createjs_2015.11.26_54e1c3722102182bb133912ad4442e19_min.js

Sizmek Example

<https://secure-ds.serving-sys.com/BurstingcachedScripts/libraries/createjs/createjs-2015.11.26.min.js>

To access a full list of these libraries, visit:

<https://www.iabaustralia.com.au/research-and-resources/research-resources/item/12-research-and-resource/2608-advertising-creative-guidelines-updated-for-html5>

HTTP REQUESTS PRIMER AND UNDERSTANDING ITS EFFECTS FOR BETTER ADVERTISING

Whilst it is important to try and limit the number of HTTP request to ensure performance isn't impacted it is equally important to understand the differences and variances in order to best understand what a significant impact on performance these could have versus those which would only have negligible effects, especially when in reference to advertising.

For example, it's key to understand differences between having several concurrent requests from the same domain, several concurrent requests from different domains and the particulars associated with having persistent HTTP connections versus short-lived HTTP connections. By understanding these differences you'll be able to build ads that have the least negative impact on performance as possible; with regards to managing multiple HTTP requests. Through leveraging the other benefits in this document, overall you'll end up creating better ads, that also don't negatively impact user experience.

It's also important to note that an average of six concurrent connections are permitted across major browsers per origin in the HTTP 1.1 spec to overcome challenges with the original HTTP 1 version, HTTP/2 builds and improves on these limitations allowing for significant increases in performance and reduction in HTTP requests, as a brief example, HTTP coalescing, the process where Hostname B can reuse a shared HTTP connection if the DNS resolve shows that both Hostname A and Hostname B contain the same IP addresses.

You can read more about HTTP/2 specs at:

<https://en.wikipedia.org/wiki/HTTP/2>

And more about HTTP Coalescing at:

<https://daniel.haxx.se/blog/2016/08/18/http2-connection-coalescing/>

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The majority of major Publisher sites should adopt HTTP/2 for all the added benefits it provides on their own servers and ensure your ad-server also utilises HTTP/2 as well. If not, then enquire as to why they don't support the HTTP/2 specs as this was released in 2015 and is now well established across all major browsers.

Having concurrent and parallel connections is generally considered best practice, as newer specifications of HTTP allow for coalescing of HTTP requests, i.e. reusing a single open shared connection, while treated somewhat differently across browsers, it's widely employed on major browsers. It's highly recommended that you reach out to your ad-server and the Publishers who run your advertisements to find out more specific details.

FINAL CONSIDERATIONS IN ORDER TO MINIMISE REQUESTS PER AD

Now that we've covered some of the items to look for and some differences between the specs - how can you effectively handle such items with regards to advertising? Whilst we've discussed the benefits of utilising the approved shared libraries, utilising non-shared libraries will add to the number of HTTP requests for your ads, so it is in the interest of publishers, clients and users alike to limit

the number of requests per ad. For some guidance on this please consider the following:

- Can you use features of your ad-server for polite loading certain assets and therefore won't need an additional JS?
- Does the platform you're using already include the functionality needed via their shared libraries and so you don't need to add an additional one?
- Check that Shared Libraries are not implemented twice, sometimes an ad-server may already be including these by default depending on the format you're building so it's unnecessary for you to add it in yourself.
- In some cases, it may be practical and beneficial for you to utilize CSS Sprites, if used correctly i.e. having smaller "placeholder-type" images before larger assets download will help to reduce the number of HTTP requests per ad, improving performance and having advertisements with maximum impact from a creative level.

A number of these considerations will in turn have other side benefits apart from reducing some HTTP requests like improvements on file size, performance improvements and overall a reduction in redundant JS code which is always going to be more efficient and is best practice.

LINKS TO APPROVED LIBRARIES

Sizmek Ad Serving Shared Libraries

<https://support.sizmek.com/hc/en-us/articles/360001416311-Sizmek-Ad-Serving-Shared-Libraries>

Google Hosted Libraries

<https://developers.google.com/speed/libraries/>

DoubleClick hosted JavaScript libraries

<https://support.google.com/richmedia/answer/6307288?hl=en>

FILE CALCULATIONS AND AD SPECS

Creative Unit Name	File Dimensions	Asset	File Type	Load Max Size (KB)	Additional Information
Display Banners	Various	Back Up Image	JPEG, GIF, PNG	40KB	A backup image is required to display for unsupported environments
		Initial Load	Image, HTML5, JS, CSS, Sprite sheets, Video files	80KB + 70KB (ad verification scripts) + 100KB (exempt shared libraries)	Exempt from Shared Library file size calculations: Cached & Speed Libraries located here http://www.iabaustralia.com.au/
		Sub/Polite Load	Image, HTML5, JS, CSS, Sprite sheets, Video files	2MB (desktop) 200KB (Mobile)	For anything over 100KB sub/polite loading must be enabled
		User Initiated	MP4	10MB (desktop) 2MB (Mobile)	