PUBLIC CIRCULATION DRAFT:
Prepared by MRC in collaboration with IAB Emerging Innovations Task Force

Viewable Ad Impression Measurement Guidelines

Version 9.0 – March 26, 2014

Definitions

Viewable Browser Space: Advertisements and content associated with each page load can appear either within or outside the viewable space of the browser on a user's screen—i.e., that part of the page within the browser that a user can see. This is similar to the concepts once referred to as "Above the Fold" (i.e., within the viewable browser space) and "Below the Fold" (i.e., outside the viewable browser space). The "fold" was traditionally considered to be where the initially-loaded viewable space of the page ends – so advertisements and content above the fold were considered likely to be viewable upon load, and for content below the fold, it was considered necessary to scroll to in order for that content to be viewable. In reality, the location of the fold, and consequently the viewable status of advertising and content, is variable based on the browser settings of the user (resolution, font size, window size, etc.) and there are generally four locations (top, bottom, left and right sides) where advertising and content may be cut-off from being viewable based on user actions and settings. Upon initial page load, advertising or content placed at the top and left side of the page is most likely to be viewable, however this can change if content or ads are obscured by overlays or with further user action (scrolling) coupled with latency; therefore, placement and viewable status are separate attributes to be assessed.

I-Frames: The sections of a website/webpage that display ads served from a third party ad server that limits the access of that ad server solely to the code of the page. I-Frames can be nested, essentially creating a "chain" of serving instances from serving partners. An I-Frame associated with a placement where the ad tag is located on an HTML document loaded from a domain other than the domain of the document on which the I-Frame was rendered is called a cross-domain I-Frame.

Viewable Ad Impression: A served ad impression can be classified as a viewable impression if the ad was contained in the viewable space of the browser window, on an in-focus browser tab, based on pre-established criteria such as the percent of ad pixels within the viewable space and the length of time the ad is in the viewable space of the browser. It is recognized that an "opportunity to see" the ad exists with a viewable ad impression, which may or may not be the case with a served ad impression.

Invalid Impressions: Impressions that do not meet certain ad serving quality or completeness criteria, or otherwise do not represent legitimate ad impressions that should be included in impression counts. Among the reasons why an ad impression may be deemed invalid is it is a result of non-human traffic (spiders, bots, etc.), or activity designed to produce fraudulent impressions (see definition

of Fraudulent Impressions).

Fraudulent Impressions: Impressions that result from an intentionally deceptive practice designed to manipulate legitimate ad serving or measurement processes or to create fictitious activity that leads to inflated counts. All fraudulent impressions are invalid (but not all invalid impressions are fraudulent), and impressions known to be fraudulent can never be viewable impressions. Some viewable impression measurers apply additional techniques to identify suspected fraudulent impressions subsequent to making a viewability determination about an ad, and account for these in their reported impression counts.

As used in these Guidelines, Fraud is not intended to represent fraud as defined in various laws, statutes and ordinances or as conventionally used in U.S. Court or other legal proceedings, but rather a custom definition strictly for advertising measurement purposes.

General Requirements

For counting of viewable ad impressions, existing key concepts of served ad impression counting should be followed, as detailed in previously issued IAB Measurement Guidelines. These include:

- Client Side Counting
- Filtration of Non-Human Activity and Invalid Activity
- Cache Busting Techniques
- Differentiate Significant Auto-Refresh versus Human-Initiated Activity
- Differentiate Impressions Served in Situations of Out-Of-Focus or Obstruction
- Disclosing Material Internal Traffic
- Full Disclosure by Publishers, Portals, Ad-Servers, Ad Networks and Exchanges
    - In the context of viewable ad impressions, this principle of transparency of measurement processes to data users should apply to all measurers of viewable impressions, including 3rd party measurers.

Note regarding the applicability of these guidelines for mobile viewable ad impression measurement: While these viewability guidelines are designed for online advertising rather than mobile advertising, the following points should be noted: 1) measurers of viewability of mobile browser-based web ads are encouraged to consider these guidelines in measurements until such time as guidance specifically designed for the measurement of viewability in mobile web based ads is created; and 2) as noted in the Mobile Application Advertising

Measurement Guidelines issued by IAB, MMA and MRC in July 2013, ad impressions served in an in-application environment are currently generally assumed to be viewable.

Requirements for Viewable Display Advertising Impressions

In addition to the above requirements, Viewable Display Ad Impressions are counted when the following criteria are met:

- Pixel Requirement: Greater than or equal to 50% of the pixels in the advertisement were on an in-focus browser tab on the viewable space of the browser page, and
- Time Requirement: The time the pixel requirement is met was greater than or equal to one continuous second, post ad render.

The above actions—determining pixel requirement, determining time requirement—should be performed in that specific order when measuring the viewability of an ad. In other words, satisfying the minimum pixel requirement should precede the measurement of the time duration; for example, the clock starts on determining whether the ad meets the one continuous second time requirement only when the ad is determined to have met the 50% pixel threshold.

User Interaction Considerations: If the measurer is able to determine that there is a strong user interaction with the ad, then the ad may be counted as viewable even if it does not meet the pixel and time criteria noted above. In this context, a legitimate click (i.e., it satisfies the requirements for counting a click, based on the IAB's *Click Measurement Guidelines*) would constitute a "strong user interaction" that would result in a viewable impression; but a mouse-over alone generally would not be considered a user interaction with the ad that would serve as a proxy for viewability. Specific user interactions that will satisfy the requirement of a "strong user interaction" should be appropriate to the advertisement and the environment in which it appears, they should be empirically defensible as reasonable proxies for viewability, and each type of qualifying user interaction should be fully disclosed by the measurement organization. In addition, the number of viewable impressions that result from application of a user interaction rule (rather than the 50% of pixels/one continuous second rule) should be segregated for reporting purposes.

Note on Measuring the Ad vs. the Ad Container: Viewable Impression measurers generally measure the viewability of an ad based on the ad itself (for instance, by attaching a Java script tag to the ad). However, some measurers who do not tag the ad determine ad viewability by measuring the ad container (i.e., the I-Frame) in which the ad appears. Viewability measurement based on the ad container involves an inference that that ad in fact appeared within the container in its intended format. While measurement based on the ad itself is

generally preferable whenever possible, ad container-based measurement is also acceptable under these guidelines, but it should be supported by evidence that viewability measurement based on the container rather than the ad does not result in material counting differences, or in inaccurate viewability determinations because of the mis-sizing or scaling of ads that appear within the container.

Note Concerning Large Size Display Ads: Large size display ads (such as IAB's "Rising Stars" formats) present special challenges in terms of meeting the above viewability thresholds. Because these ads are designed to occupy a large area of the browser page, applying different criteria to determine the viewable status of certain large size ads is reasonable.

With this in mind, for display ads sized at 242,500 pixels (which is equivalent to the size of a 970 x 250 pixel display ad) or greater, a viewable impression may be counted if 30% of the pixels in the ad are on an in-focus browser tab on the viewable space of the browser page for a minimum of one continuous second. If this 30% pixel threshold is used for display ad units of 242,500 pixels or greater instead of the standard 50% pixel threshold, this practice should be fully disclosed to data users.

We suggest further study to evaluate whether it is appropriate to apply different thresholds for large size display ads, with particular attention to balancing the special challenges presented by ads of these sizes, with the need to preserve the effectiveness of the advertising message. If it is determined to be appropriate to apply different pixel thresholds for large size display ad units that fall short of the 242,500 pixel minimum threshold specified here, this guidance will be provided in a future update of these guidelines.

Note on Expandable Rich Media Ad Units: Certain ad units are designed to initially appear as one size, and then expand, based on time or a defined user interaction with the ad. Viewability measurement of such ads may be based on the pixel count of the smaller initial format of the ad, when the smaller initial format is in place; or the pixel count of the larger expanded ad, for the duration when that larger expanded ad is in place. In the case of the former, if the ad is determined to be viewable prior to expansion, any time duration measures associated with the viewable impression should include the time viewable in both pre-expansion and its expanded state. Ads that are viewable based only on the expanded ad unit should count only that time the ad was viewable in the expanded state in the duration measures for the viewable impression. The methodology for counting expandable ad units should be fully disclosed to data users.

Browser Sizing: It should be recognized that as a practical matter, the sizing of the browser window on the screen plays a role in the appearance of the ads that appear within that browser window. For the purposes of this initial version of the viewable impression guidelines, this factor is not included as a measurement

consideration. However, should future study show this to be an issue that results in the material distortion of viewable impression measurements, this area may be reconsidered for appropriate additions to the defined criteria used to determine viewable impressions.

Note on Ads Appearing on Pre-Fetched/Pre-Rendered Pages: Ads delivered to pages that are pre-fetched or pre-rendered should not be counted as viewable impressions until such time as they appear in the viewable area of the browser window and meet the necessary criteria for a viewable impression as noted above.

Other Notes Related to Viewable Impression Measurement:

1. In all cases a viewable impression must also meet pre-existing criteria for a served impression, for example, counted on the client side, filtered for non-human activity, etc. These are over and above the viewable criteria.

2. Each valid viewable impression originates from a valid served impression. In no case should viewable impressions exceed served impressions counted on a campaign. There can never be a viewed impression that does not tie to a served impression and there is a maximum of a one-to-one correspondence between served and viewable impressions.

3. Once an ad qualifies as a valid viewable impression, it should only be counted as one viewable impression within that user session (see IAB Audience Reach Guidelines for details on "Sessions"), regardless of subsequent exposures. It should not be counted again as an additional viewable impression, even if the user scrolls completely away from the ad and then scrolls back to it so it again qualifies as viewable. This additional exposure may contribute to the total time the ad is in view, but only the original viewable impression should be counted.

   Note for Further Study: Certain website environments have been introduced in recent years that are designed to lend themselves to users scrolling back and forth on the page (such as with newsfeeds or other "in stream feed"-type environments). These may require further study to determine if there are legitimate reasons why they should be exempt from the requirements of notes 2 and 3 above related to the correspondence between served and viewable impressions. If legitimate reasons are found to do so, these will be addressed in a future update of these guidelines.

Requirements for Viewable Video Advertising Impressions

A Video Ad[1] that meets the criteria of 50% of the ad's pixels[2] on an in-focus browser tab in the viewable space of the browser page can be counted as a Viewable Video Ad Impression if it meets the following time criterion:

> **Video Time Requirement:** To qualify for counting as a viewable video ad impression, it is required that 2 continuous seconds of the video advertisement is played, meeting the same Pixel Requirement necessary for a viewable display ad. This required time is not necessarily the first 2 seconds of the video ad; any unduplicated content of the ad comprising 2 continuous seconds qualifies in this regard.

Similar to the rules for counting display ad viewable impressions, strong user interaction with a video ad may, in certain instances, be considered a proxy for viewability. Specifically, a legitimate click on a video ad (i.e., the click satisfies the requirements for counting a click, based on the IAB's *Click Measurement Guidelines*) may result in a viewable video impression even if the ad does not meet the pixel and time criteria necessary for a viewable video impression. As is the case with display ads, specific user interactions that will satisfy the requirement of a "strong user interaction" should be appropriate to the advertisement and the environment in which it appears, and they should be empirically defensible as reasonable proxies for viewability. If viewable video impressions are counted as a result of such user interactions, this methodology should be fully disclosed, and these counts should be segregated for reporting purposes.

Audio Considerations: Current technological limitations make it difficult or impossible for a measurer to detect the presence of unmuted audio in all situations. Given this limitation, detection of audio is not currently a requirement for a viewable video ad impression under these guidelines. However, we encourage the development of a technological or other solution to this limitation so that it may be considered in the future. Also, we strongly encourage, but do not currently require, that the presence of audio during the duration of the Time Requirement be a consideration in determining a viewable video impression in those situations where it is feasible to do so today.

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[1] Refers to an in-stream video ad. Banner ads with video embedded within them generally are covered by the display ad criteria for viewable impression measurement.

[2] Note that the criteria specified here is "50% of the *ad's* pixels" (emphasis added); if the criteria used to determine viewability is based on 50% of the video player's pixels, rather than those of the ad, this distinction should be prominently disclosed, and should be supported by evidence that the impact of using the player as the basis of viewability measurement rather than the ad itself is immaterial.

Other Considerations

Measuring viewable ad impressions differs from measuring served ad impressions, as the latter are counted when served on the client side regardless of whether they appeared on the viewable space of the browser page or met any specific time requirements. Hence, not all served impressions will have had the opportunity to have been seen by the user.

Extrapolations or other assumptions used in the process of determining the viewable status of an ad should be fully disclosed along with pre-determined estimates of accuracy (based on independently conducted validation studies). If extrapolated counts are presented with specifically identified counts, metrics originating from each method should be segregated. See guidance below related to Cross Domain I-Frames for important information.

Viewable Ad Impression measurers are encouraged to report conditions surrounding and causes of non-viewable ad impressions. This information will be a value-add to users of viewable ad impression data and will serve to allow sellers to improve their operating environment and page strategies.

Minimum Polling Requirements: To promote consistency across viewable impression measurers, the following minimum frequencies for measurement polling or snapshots of observations for determining viewability of an ad are required: for viewable display impression processes, 100 milliseconds; for viewable video impression processes, 200 milliseconds. These frequencies equate to 10 consecutive positive observations for a viewable impression of either type. The measurer is not required to store all of these observations.

In addition, measurers with the capability to monitor browser state changes may utilize this approach in lieu of the above polling requirements, until such time as a state change is recognized (at which time they should poll at the above stated frequencies at minimum), if these monitored state changes account for changes in scroll position, browser size/dimensions, and tab focus. Measurers who use this approach should clearly disclose this.

Security Considerations: Viewable Impression measurers should have specific controls in place to prevent unauthorized parties from manipulating or hijacking the viewable code, and to protect the unaltered communication transmission of the viewable impression information between the client browser and the counting servers.

Viewability Measurement Issues Related to Cross Domain I-Frames: The use of I-Frames to facilitate the ad-serving process and maintain page integrity is a commonly accepted practice. In some cases, third or fourth party serving or ad networks and exchanges can employ nested I-Frames (I-Frames within I-

Frames) which can create challenges for Viewable Ad Impression counting processes because of browser operational/security restrictions that limit the information available to the measurer about ad content served into I-Frames from outside domains.

Measurers of Viewable Ad Impressions should have procedures to classify and report the extent to which they are able to measure the viewable status of advertising, including those ads served into I-Frames from other domains. The viewable status of these ads served into cross domain I-Frames can be very complex to determine, given that multiple nested I-Frames can occur in network or exchange environments and the fact that some browser-based tools can have limited visibility into certain I-Frame transactions served from outside sources. The general nature of the tools used to view I-Frame content and execute viewable decisioning within I-Frames should be disclosed within the measurement organization's Description of Methodology (DOM) document. The extent to which the ad content served into I-Frames can be assessed by these tools should be disclosed within the DOM as well; this is sometimes referred to as a "see-through rate."[3] Assessments applicable to I-Frame viewable decisioning include whether the appropriate ad content was actually served within the I-Frame, whether the ad was appropriately sized to the I-Frame size, and whether the ad was actually visible (e.g., a single pixel I-Frame would lead to an invisible ad).

While it is recognized that the vast majority of nested I-Frame arrangements are legitimate, the limited visibility into these transactions can cause an environment where ad-serving issues can occur undetected, hence the necessity to disclose the see-through rate to marketers and agencies. Minimizing the use of nested I-Frame arrangements by publishers, ad networks and ad exchanges is encouraged for this reason.

Discussion of Viewable Video Ad Requirements: In all cases the viewable video ad impression measurement organization should attempt to measure directly whether the video ad appeared in the viewable space of the user's browser based on the above-specified criteria. We recognize that this can be difficult, depending on the video player and the nature of the measurer's integration into the video-player operating environment.

If player integration is not present, the following assumptive rules can be followed:

1. **For Ads in Click-to-Play Video:** At the original click, the measurement

[3] The term "See Through Rate" is sometimes used to describe Brand Safety issues in the ad verification area. As noted here and also in the IAB's *Guidelines for the Conduct of Ad Verification*, the proper use of "See Through Rate" is in the context of the ability to assess ad content that appears within I-Frames.

organization can assume the video is at least majority viewable upon click. Therefore for click to play video ads there must be a video click (to start video execution), post buffering where applicable prior to drop (meeting the Time Requirement). If these conditions are met, including meeting the Time Requirement as noted previously for a viewable video ad impression, the initial video ad instance would be countable as a viewable video ad impression.

2. For Ads in Auto-Play Video: The measurement organization cannot assume this video is viewable upon execution; therefore, some knowledge is required through other means that the video met the viewable criteria specified for viewable video ads above. If viewable status can be determined, then counting is allowed. It is recommended that auto-play viewable counts be segregated from click-to-play viewable counts for reporting purposes if auto-play is material to the total measured counts for the campaign.

Viewable video ad impression measurers may also report additional viewable measurements linked to the time the in-view ad plays; for instance, some measurers report time-based quartile measurements for video ads. Such reporting is not discouraged by these guidelines, as long as these additional measures are not reported in lieu of the viewable video impression metric as defined herein.

Communication and Discrepancy Resolution

Early review of viewable ad impression counting results (versus total impressions served) is strongly encouraged by all parties. If the campaign is subject to third-party ad verification early review is a requirement – with “early” being defined as prior to twenty percent (20%) of expected campaign volume, or as soon as possible and within no more than five business days from the initiation of the campaign, when all required verification information has been received by the verification service. Early communication of significant findings from the viewable ad impression measurer to parties involved in the campaign is encouraged. Early identification and communication of results minimizes material conflicts among buyers and sellers since timely correction can be made, assuming parties are acting in good faith.

Disclosure Requirements

Viewable Ad impressions should be counted and presented in three mutually exclusive buckets -- (1) Viewable Impressions, (2) Non-Viewable Served Impressions, and (3) Impressions with Viewable Status Undetermined. In all cases we believe these three count totals should be disclosed for a campaign. We also recommend reporting the Total Served Impressions count, which is the sum total of these three buckets. As noted earlier in this document, counts that are the result of extrapolations or projections rather than specifically identified

counts should be segregated for reporting purposes.

Additionally, it is appropriate to calculate performance metrics, beyond the pure impression counts. We believe three types of metrics are reasonable to present together and that they fully inform the user of the data taken together, and therefore should be disclosed. For the explanations below, consider the following example: a campaign has a total of 1000 served impressions, 300 were determined to be viewable, 200 were determined to be non-viewable, and 500 were undetermined as to viewable state.

- The “Measured Rate” – This is calculated as a percentage and represents (Viewable Impressions + Non-Viewable Impressions) / Total Served Impressions. Using the above example, the Measured Rate would be (300 + 200) / 1000, or 50%.
- The "Viewable Rate" -- This is calculated as a percentage and represents Viewable Impressions / (Viewable Impressions + Non-Viewable Impressions). Using the above example: 300/(300+200) = 60%
- The "Impression Distribution" -- This is the percentage that each reporting bucket represents of total served impressions. Using the example: Impression Distribution amounts to 30% Viewable, 20% Non-Viewable and 50% Undetermined.

Viewable Ad Impression measurers should not refer to the 30% in the Impression Distribution category as the "Viewable Rate" since it assumes that all undetermined were non-viewable, thought to be an overly conservative presentation.

The above noted disclosures should be made, at minimum, at a campaign level. While more granular levels of reporting below the campaign level are strongly encouraged, they are not required by these guidelines.

Reductions in Viewable Ad Impression counts that occur as a result of the application of additional ad verification functions other than viewability determination can result in unexplained inconsistencies in viewable impression reporting among measurers. See the “Other Filtration and Verification” section of the chart in Appendix A of this document for a schematic representation of the role these processes may play. Because of this, segregation of those impressions removed from reported viewable impression counts as a result of the application of these other ad verification functions is necessary. Referring to the chart in Appendix A, viewability measurers should base their counts on Steps 1 through 8 in the chart (and account for Step 15, Ad Serve Blocking, if it applies, since it will affect both the numerator and the denominator of the viewable rate calculation). This will allow for consistency in viewability metrics across vendors

regardless of whether they also apply additional ad verification functions. In situations where these ad verification functions occur as part of, or simultaneous to, the viewability decisioning process, the measurer should attempt to quantify these and segregate these impressions from those that are excluded because they failed to meet the time and pixel requirements for a valid viewable impression.

Reporting Considerations when Additional Suspected Invalid Impressions Are Identified:
Impressions identified as invalid are generally removed from served impression counts, and therefore cannot contribute to viewable impression counts. However, some measurement organizations apply a level of processing subsequent to determining the viewability of the impression to attempt to identify by various means additional impressions that are invalid (these are sometimes attributed to be a result of suspected fraudulent traffic[4]). The following reporting guidance is applicable only in these situations when such additional processes are performed after the viewability decision has occurred.

In no instances should known fraudulent impressions be counted as viewable impressions. Impressions that are identified as invalid at this stage of the measurement process are either measured non-viewable served impressions, or they are unmeasured served impressions that have been subsequently identified as invalid (and, if they are suspected fraudulent impressions, they are therefore non-viewable by definition). If the measurer specifically identifies and reports the invalid impressions identified at this stage, these counts should be identified as such and broken out from the non-viewable impressions total.

Example:
A campaign has a total of 1000 served impressions, 300 were determined to be viewable, 200 were determined to be non-viewable, and 500 were undetermined as to viewable state; but of the 500 impressions in this last bucket, 100 were subsequently identified as invalid by a means other than viewability measurement. Reporting for this campaign would be as follows:

Viewable Impressions		300
Non-Viewable Measured Impressions	200	
Undetermined Impressions Later Deemed Invalid	100	
Total Non-Viewable Impressions		300
Impressions with Viewable Status Undetermined		400
Total Impressions Served		1000

[4] Fraud intent is often difficult or impossible to determine, so impressions that are specifically identified as fraudulent should be limited to those impressions where the measurer has strong reason (and evidence) to suspect their fraudulent nature..

Such reporting of these invalid impressions will also impact the performance metrics calculated for the campaign. In the above example, the Measured Rate = 60% (300 Viewable Impressions + 300 Non-Viewable Impressions/1000 Total Impressions); the Viewable Rate = 50% (300 Viewable Impressions/300 Viewable + 300 Non-Viewable Impressions); and the Impression Distribution = 30% Viewable, 30% Non-Viewable, and 40% Undetermined.

Other Recommended Metrics:

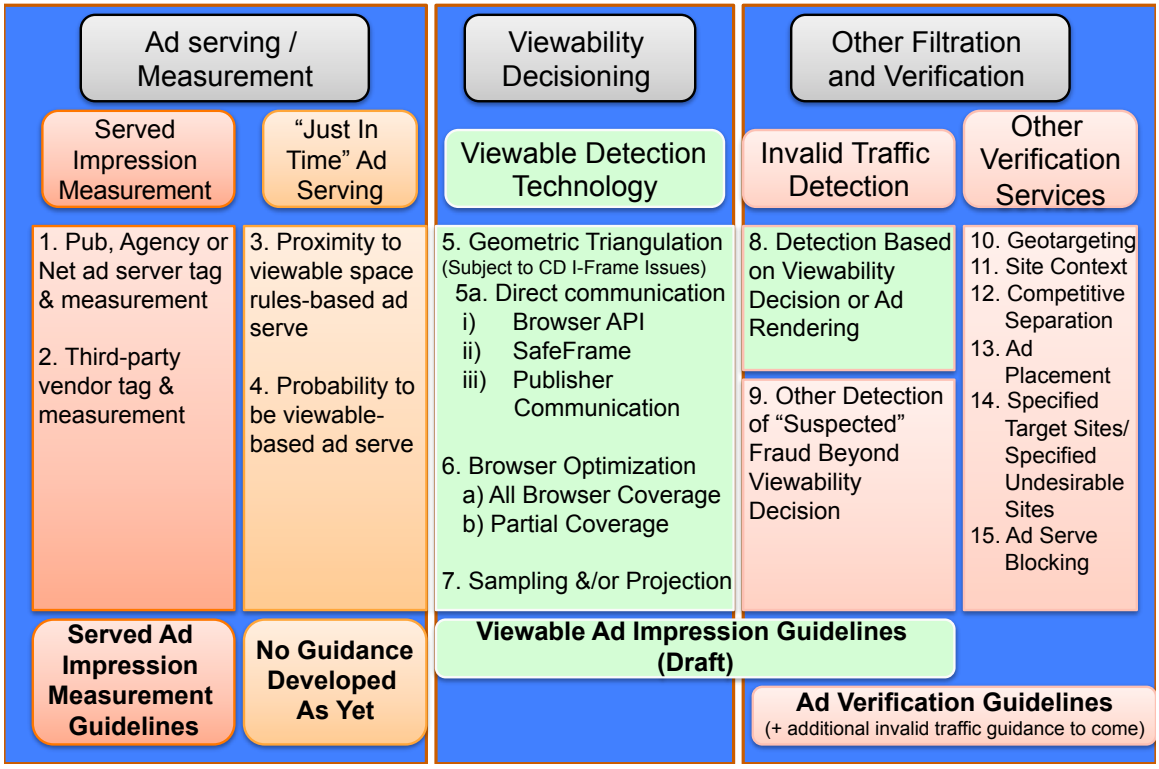
- The "Median Viewable Time" -- For those ads determined to be viewable, an important metric is the total time the ad was in view (i.e., the cumulative time it was in the viewable browser area in accordance with the criteria for determining a viewable ad impression). This total includes all time the ad was in view, including the time it was in view prior to having met the threshold to be considered a viewable impression. The Median Viewable Time is the median time those ad impressions that were determined to be Viewable Impressions were in view. Non-Viewable Impressions or undetermined impressions do not contribute to this statistic. Different forms of ad-creative should be segregated for Median Viewable Time calculations on a campaign.

Additional Details on Reported Categories:

Viewable Ad Impression: These represent served impressions that can be determined with certainty to meet the viewable criteria, currently stated as at least 50% of the ad being viewed for 1 continuous second or more for display ads. A single ad-view must meet both viewable criteria; in other words they are not cumulative for sub-second or less than 50% viewing instances.

Non-Viewable Ad Impression: These represent served impressions where the viewable status is not met, but they can be "seen" by the viewable decisioning function (see "Disclosure Requirements" section for discussion of impressions categorized as non-viewable because they are identified as fraudulent).

Undetermined Ad Impression: These represent served impressions where the viewable status cannot be determined because of any conditions that do not allow that decision to be made. For example: (1) if cross-domain I-Frames block the viewable determination, (2) clients not supporting Java script, and/or (3) any other issues where browser settings or serving conditions disallow verification of the ad position on the page or the time-viewed.

Appendix A: The Viewable Impression Ad Serving Landscape

Ad Serving Landscape
Prepared by MRC