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Interactive Advertising Bureau
Click Measurement Guidelines
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Introduction

These guidelines are meant to establish the minimum acceptable counting procedures for the media buying currency "clicks". The guidelines are focused on when a click will count - the actual revenue event. As with all measurement standards, click counting organizations including search engine providers, publishers and networks may choose to offer additional enhancements to these guidelines for competitive differentiation, so long as they fully disclose these features while meeting the minimum accepted guidelines.

In many ways, these guidelines are similar to guidelines already in place for general ad impressions and digital video commercials. The definitions included in this document are a continuation of the Measurement Certification Initiative led by the Interactive Advertising Bureau (IAB) and facilitated by the Media Rating Council (MRC), and these guidelines are meant to be an addendum to the existing Ad Impression Measurement Guidelines published in 2004.

Scope and Applicability

The recommendations established in these guidelines provide the detailed definition of a "click" and the standard by which clicks should be measured and counted, including the identification of invalid and/or fraudulent clicks. The guidelines are intended to cover on-line browser or browser-equivalent based Internet activity. Additionally, any emerging technology utilizing standard HTTP protocols will be covered by these guidelines.

This document is principally applicable to media companies, ad-serving organizations, advertisers, third-party click auditors and the agents of these organizations and is intended as a guide to accepted practice, as developed by the Interactive Advertising Bureau (IAB) and the Media Rating Council (MRC). Additionally, Internet planners and buyers can use this document to assist in determining the quality of click measurements. This document is intended principally to guide the definition and application of measures that are to be used for commercial, revenue-generation purposes, and not necessarily those that may be developed and used for other internal or related non-commercial uses.

Project Participants

Advertising.com	Dotomi	Microsoft Advertising
AMC Group Online Media	DoubleClick, Inc.	MIVA Media
Services	Ernst & Young LLP	Omniture
AOL	Eyeblaster	PricewaterhouseCoopers LLP
Authenticlick	Fair Isaac Corporation	Pulse 360
Business.com	Fidelity Assets	Revenue Science
Click Forensics	FOX Interactive Media	Scripps Network
CBS Interactive	Google, Inc.	Seevast
Compete, Inc.	Idearc Media Corp.'s	SEMPO
Cox Newspapers, Inc.	SuperPages.com	United Online Advertising
Deloitte & Touche, LLP	ImServices Group	Network
Didit	Kontera Technologies, Inc.	ValueClick Media
Disney Interactive Media	LookSmart	WebTrends
Group	Marchex	Yahoo!, Inc.

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1. **Click Measurement Definitions**

   1.1. **Click Origination**

   Ad impressions or search transactions (herein referred to as Advertisements) relevant to the Click Measurement Guidelines contain clickable content. In concept, the four click-referral-cycle components described below are initiated after an Ad Impression (for an advertising click) or search transaction (for a search or on-line shopping click) has taken place.

   In addition, if user activity surrounding (but not on) the Advertisement leads to initiation of a click transaction, the specific parameters surrounding these requirements (i.e., number of pixels outside the ad image, etc.) should be disclosed to the advertiser for consideration prior to initiating the campaign.

   Finally, beyond the click filtration and other controls described herein, if the click measurement organization has high confidence to believe that a click transaction did not originate with a legitimate Ad Impression or Search Transaction, this click should be excluded from valid counts downstream. Therefore, Ad Impressions not meeting quality standards (e.g., that were removed as a result of HTTP invalid user agents, robot and spider filtration) should have click activity that is directly identified as originating from non-human agents also removed insofar as possible by the click measurement organization, although this requirement does not need to apply to filtration used for internal purposes such as predicting click-through rates. (See the IAB Ad Impression Guidelines at www.iab.net for further detail on the filtration of ad impression transactions)

   1.2. **Click, Click-Through and In-Unit Click**

   1.2.1. *"Click" or "Click-Through"* - The measurement of a user-initiated action on an ad element (Advertisement), usually causing an HTTP 302 redirect to another web location, thereby transferring the user from a Publisher site to an Advertiser site. Additionally, Internet-based search activity or shopping activity can lead to click-through transactions on search results or other content sites that display Ad Impressions, which similarly can result in redirects to other web locations, such as an Advertiser site.

   These measurements should be filtered for click counting purposes for robotic activity and invalid click activity in accordance with the provisions of this guideline.

   1.2.2. *"In-Unit Click"* – These also represent measurement of user-initiated actions on Advertisements but, in contrast to a "click" or "click-through", an in-unit click does not lead to a redirect from the publisher and may result in server log

events. These are generally measured using 302 redirects, but they do not include a re-direct to another web location. (see Appendix A, Fig. 3)

2. Click-Referral Cycle

Before reviewing the sections on click measurement and filtration of invalid clicks, it is important to become familiar with the lifecycle of any click, which can be referred to as the Click-Referral Cycle.

Four stages comprise a Click-Referral Cycle:

2.1. *Initiated Click* – When a user is served and interacts with an Advertisement or search result, including impression content or other descriptive information. In concept, prior to an initiated click, the user is served either (1) an Advertisement consisting of an Ad Impression, or (2) search results consisting of descriptive information (most frequently an HTTP GET to Publisher's or Publisher's Agent's server) following a Search Transaction.

2.2. *Measured Click* – Following an Initiated Click additional information is sent to an Advertiser or Advertiser Agent's site or to the user on the Publisher's site. At this stage, the Publisher or Publisher's Agent may count the Click for reporting purposes (for example, a successfully sent HTTP 302 re-direct from a Publisher or Publisher's Agent or a received HTTP GET from a user's browser as a result of an initiated click), subject to the click filtration controls described below.

2.3. *Received Click* – When a Measured Click reaches an Advertiser's site and is measured by an Advertiser or an Advertiser's Agent (most frequently an HTTP GET). (see Appendix A, Figs. 1a and 1b)

> Note: Within certain search or shopping transactions a Publisher may acquire Advertiser content and maintain this content for presentation to the user, which is essentially a form of content caching. If clicks are initially directed to this content hosted on the Publisher site rather than the Advertiser's content directly, no Received Click occurs. The Publisher uses other means, and in some cases alternative measurement metrics, to communicate this activity to the advertiser for payment. Additionally, in these situations Resolved Clicks as described below may not occur, until the user's actions execute further redirects.

2.4. *Resolved Click* – When a Received Click launches an Advertiser destination web page or other web page intended to provide the Advertiser with a commercial interaction with the user (for example, a lead referral form hosted by the publisher on behalf of the advertiser). The final destination may also be an FTP or HTTP download (most frequently an HTTP 200).

> Note: When an Advertiser's Agent is independently measuring click activity, the Received Click may be subject to an additional 302 redirect from the agent's ad-server to the Advertiser's Agent's destination web server where the Resolved Click is recorded. (see Appendix A, Fig.2)

Any of the above activity can be measured by recording/logging redirects, tracking pixels, javascript or through the use of FTP and download information. The above click referral cycle components are meant to include the major milestones in the click transaction; this is not necessarily an all inclusive list of transaction components for all click processing methods.

Notes
- Clicks are not equivalent to web-site referrals measured at the destination site. As a result, even if an organization complies with the guidelines specified herein, there may still be measurement differences between originating-server measurement (Measured Clicks) and the destination site measurement (Received Clicks). The use of 302 redirects helps to mitigate this difference because of their easy and objective quantification; however, differences will remain from measurements taken at the destination site because of various issues such as latency, user aborts, 404 errors, etc. In general, pre-filtration Measured Clicks should always be equal to or higher than Received Clicks.

- A large number of redirects in a particular click transaction stream (after the point of measurement and before the advertiser-site landing) *may* lead to counting differences, although this may be mitigated if all parties in the transaction stream only measure upon the user's browser being served the ad or search result and the user interacting with the ad or search result. The impact of the number of redirects on measurement accuracy is being studied and may be the subject of future projects and guidelines.

- While most publishers and some third-party ad servers currently utilize a "pass through" method for click tracking, which typically involves the use of a series of 302 redirects to move the browser to other entities in the click chain, an "out of band" method may allow for an enhanced level of security over the possibility of phishing and/or click hijacking. An out of band approach uses client scripting and absolute URLs instead of 302 redirects, and thus allows publishers and third-party networks to track clicks without giving redirection power to anyone but the entity responsible for redirecting the user's browser to the advertiser landing page.

- Additionally, this guideline does not cover measurement specifics of post-click activity (post *Resolved Click*) or conversion activities, but this activity may be a subject of future phases of this project.

- Prefetch requests should not be counted as clicks, until subsequent user-initiated action occurs on the ad element, similar to the requirements for a non-prefetch click described above.

- If image-based tracking or javascript is used for counting clicks then disclosure of methods used and the limitations of these methods should be prominently made to users of the associated click count data.

- For in-unit clicks prominent disclosure of counting methods used should be made because all counting processes are maintained by one measuring organization.

3. Valid Click

Basic Measurement Methodology & Requirements:

- A Click may be considered valid only when either of the following two counting methods are used:

    (a) One-Click-Per-Impression Method: The Click on a unique ad impression (ad creative) or individual search result has not already been counted for the session.

    OR

    (b) **Multiple-Click-Per-Impression Method:** The time between the Click and the previous Click on the ad impression (ad creative) or search-result content is greater than an amount called the repeat-click-refractory-period, which is specified by the Publisher or the Publisher's Agent. The purpose of this rule is to prevent navigational mistakes (for example, unintended multiple clicking by the user) from causing inappropriate counting. This method allows for multiple clicks per impression and, therefore, click-through rates greater than 100%. If this method is used, the measurement organization should also establish counting rules for qualification of multiple clicks from the same user within a prescribed time threshold.

- In addition to one of the methods described above, two further requirements must also be met:

    1. The time between the ad impression (or search result) and the Click is less than an amount called the impression-staleness-window, which is specified by the Publisher and/or Ad-Server. Because it is possible that both the Publisher and Ad-Server use their own window and that these windows can be different, consistency and/or communication of this information is encouraged.

<u>AND</u>

2. A Click on Advertiser content or the search result has been *Initiated*, the Click has been *Re-directed* to the Advertiser's Web Content and the Click has undergone General and Invalid Click Filtration steps as defined in the remainder of this document. *Note that this does not require the Re-directed Click (herein referred to as a Measured Click) to have been converted to a Resolved Click – this is because the availability of the advertiser's web content cannot be definitively established when measurement of a Measured Click takes place.*

Employing the above techniques, for example tracking an impression-staleness-window, requires some form of "session" assumptions by the click measurement organization and other parties to the click transaction.   See "Other Definitions" section for further guidance.

While the technique used to measure the click transaction should be disclosed, the detailed parameters associated with the impression staleness window and the refractory period should be maintained as confidential to ensure the integrity of the measurement process. However, these parameters should be made available to an Advertiser or Advertiser's agent if necessary to resolve a material reconciliation matter as long as confidentiality is protected.

If the measurement organization does not have knowledge of the underlying ad impression transaction, the impression staleness window described above will not apply.

<u>Other Metrics:</u>

• Publishers are encouraged to pre-establish other volume-based click metrics in addition to the above requirements. For example: a Maximum Level of Clicks per User, insofar as identifiable, on a given ad creative within a fixed time period. If they are instituted, these metrics should be subject to auditor review.

• Certain click assessment procedures lead to click-scoring or estimated likelihoods of click-validity; these assessments are generally based on the facts and circumstances surrounding the click activity. Disclosure of this technique should follow similar rules as other measurement methods described herein.

<u>Transaction Records:</u>
Data associated with click transaction records should be maintained in a manner consistent with the requirements of the IAB Ad Impression Guidelines (and inclusive of click specific-data) including, insofar as commercially reasonable, transactions facilitated or fulfilled by Agents of the Measurement Organization downstream. These records are an important part of enabling appropriate filtration procedures as described below and should be retained in a manner that can be accessed by the Measurement Organization to validate/filter click

activity.   Ad Impression definitions and measurement techniques were previously defined in the IAB Ad Impression measurement guidelines.

<u>Unique Click Identifiers:</u>
To foster consistency in Click measurement and among all the parties in the Click transaction stream, the development of periodic and detailed reporting using a unique click identifier, a unique numeric or alphanumeric string associated with the click, is encouraged (although not required at this time). This unique identifier is intended to assist in investigation or auditing of clicks, and is not necessarily intended for use beyond these internal purposes. In addition, the unique identifier can be available for a limited period of time (for example, 90 days) to enable re-use (If re-use is employed, the entity should consider retaining other data associated with the click such as date/time of click, IP address, campaign identifier, etc.). The unique identifier could assist on an as-needed basis for reconciliation processes as long as confidentiality is protected, however; because of the need to protect click filtration processes from reverse-engineering, click measurement organizations are not required or expected to disclose the filtration status (validity) of individual click records.

When analysis is performed on click data residing outside the click referral cycle transaction stream to approximate click counts, for example on a third-party log file, there should be a mechanism to agree actual transaction stream click data to the external click data. Without the existence of such a mechanism, such analyses are likely to be meaningless and should not be performed.

4.   Invalid Clicks and Invalid Clicks Arising from Suspected Click Fraud

Invalid Clicks can arise from numerous situations based on internal quality guidelines of either or both the Publisher or Publisher's Agent. Additionally, the Advertiser or Advertiser's Agent can make assessments of Click validity and bring these assessments to the attention of the Publisher or Publisher's Agent. In general, Click activity determined to be invalid as noted below should be removed from counts to arrive at valid click activity.

- Invalid Clicks arising from suspected "click fraud" are a sub-component of Invalid Clicks and originate from a user, program or automated agent (e.g., Internet robot or spider) that accesses a URL for the purpose of manipulating click measurement activity or click-based advertising payments, having no intention of legitimately browsing site content, making a purchase or performing any other type of legitimate conversion action. Suspected click fraud can arise from both human-initiated and application-initiated automated activity; also, suspected click fraud can arise from invalid Ad Impression activity.

<u>Filtration of Invalid Clicks - Overview:</u>
(For further guidance, see "Filtration Procedures" below) Invalid Clicks arising from suspected click fraud as well as other types of invalid clicks (clicks not meeting quality or data completeness requirements, etc.) should be filtered from legitimate, user-originating click activity through click-control analyses. **Because true user intent and all conditions surrounding user activity can rarely be known by the Publisher, Advertiser or their respective Agents, it is unlikely that *all* Invalid Clicks Arising from Click Fraud are knowable or discoverable.**

5.   Other Definitions

1) Advertisement – A paid announcement or search transaction, as for example used with goods for sale or calling attention of the public to a marketing or branding message for the promotion of a product or service.

2) Advertiser – An organization, entity or individual that markets a product, service or branding message through the placement of Advertisements.

3) Advertiser Agent - Organizations engaged/employed by an Advertiser to facilitate the click measurement process and/or auditing of click measurements.

4) Ad Impression - An ad impression takes place when a user requests ad content from a publisher or ad-server. This request should meet conditions for measurement specified in the IAB Guidelines for Ad Impressions, although the responsibility for ad-impression measurement does not necessarily reside with or is under the control of the same organization measuring the click activity.

5) Bot-Net – A group of automated agents generating invalid clicks using programmed techniques to simulate random-appearing human activity. Bot-Nets generate a form of click fraud. This type of activity may be very difficult to detect through standard filtration techniques, i.e., they may require very advanced data analyses for detection. Certain click fraud agents, including automated agents, avoid outlier activity; therefore outlier analysis is generally insufficient to detect these sophisticated actors.

6) Click Fraud – As used herein, Click Fraud means a sub-component of Invalid Clicks, originating from a user, program or automated agent (e.g., Internet robot or spider) that accesses a URL for the purpose of manipulating click measurement activity or click-based advertising payments, having no intention of legitimately browsing site content, making a purchase or performing any other type of legitimate conversion action. Click Fraud also includes situations where a user is unwillingly, or tricked into, accessing information(for example, user "virus" infected activity, or auto-clicking functions).

As used in this Guideline, Click 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 of "fraud" as associated with click measurement.

7) Conversion – A change in the activity-status of a browser, or registered user, from an advertising and/or search impression, i.e., the mere viewing of advertising content that leads to that of a *Resolved Click* and post-click activity at an Advertiser's site. Suspected click fraud can include bogus conversion activity which is difficult to detect without certain sophisticated analyses and/or cooperation from advertiser organizations.

8) Internal Publisher Clicks – Clicks originating from IP addresses assigned to the Publisher.

9) Internal Users – An identified browser attributable to or belonging to an employee of the measurement organization (a party in the click transaction stream). Generally, significant activity from internal users for purposes other than legitimate advertising viewing or search transactions, for example in testing software or validating creative, is excluded from click counts.

10) Prefetch Request – A request for and caching of Internet content by an application that occurs prior to, but in anticipation of, the request for the content by a user. Prefetch requests are generally made for the purpose of speeding content access (due to the in-advance caching process) if and when the content is actually requested by the user. A prefetch request does not qualify for measurement as a click until subsequent user interaction with the ad content occurs, as required for a non-prefetch click.

11) Proxy Server – A computer residing in the click transaction stream (for purposes of this Guideline) that manages data storage or network communication functions acting on behalf of another single browser or server, or multiple browsers or servers. Proxy servers can be authorized to send network communication (i.e., requests, re-directs, etc.) or content and/or substitute for other servers in the click transaction stream.

12) Publisher – An organization, entity or individual that supplies web content or search content. For impression-based clicks, the Publisher's content is the vehicle for providing the advertising content to the user. For search-based clicks, the Publisher's (a/k/a, the Search Marketer, or Measurement Organization) functionality provides the search results that lead to the click transaction. Each click transaction should have a Publisher (generally the primary payee). In some cases third-party ad-servers can be Publishers or in other cases they can be Agents (a/k/a, Search Marketer's Agent, or Measurement Organization's Agent).

13) Publisher Agent - Third parties, authorized by the Publisher to facilitate or fulfill user requests, who control certain sections of the transaction stream such as supplying web

content, search content, advertising or referrals to such materials. For the purposes of measurement and click filtration procedures, the Publisher is responsible for the activity of its authorized Agents and is responsible for the material accuracy of the click measurements.

14) Search Transaction – An internet-based information request that leads to presentation of content links to the User related to the requested informational topic. Users can Click on one or more of these links to initiate and progress through the Click Referral Cycle.

15) Session/Visit – A single continuous set of activity attributable to a cookied browser (or if registration-based an Internet user) resulting in one or more pulled text and/or graphics downloads from a site without 30 consecutive minutes of inactivity. Establishing a session/visit can involve making assumptions about user activity and is subject to measurement limitations such as dynamic addressing and cookie deletion. The click measurement organization should consider these difficulties when creating rules for determination of sessions/visits.

16) User – Generally refers to an identified individual browser, e.g., via a cookie. Insofar as commercially reasonable, browsers are filtered from robotic activity to attempt to represent humans interacting on the Internet. For the purposes of this Guideline, click measurement and filtration procedures are generally applied across individual users in the same session/visit, insofar as this can be determined.

17) Web Content – Topical verbal or image information supplied to users via the Internet. Web content may contain advertisements or other forms of advertising messages.

18) "Pass Through" method – a method of click tracking that relies on each entity's ability to count the incoming click, then employ a 302-redirect to send the browser to the next entity in a series of click redirects.

19) "Out of Band" method – a method of click tracking that utilizes client scripting and the use of absolute URLs instead of redirects to send the browser to the destination site. Such methods are generally considered less susceptible to phishing and click hijacking than are "pass through" approaches that rely on a series of redirects that can yield control to other entities in the click chain.

6. Filtration Procedures

6.1. Control Analyses for Invalid Clicks

Validation

For advertising sales purposes, Publishers should make good faith efforts to filter click activity through control procedures executed internally or by ad-serving organizations that report click activity. These control procedures should be executed periodically and consistently and should contain a combination of detection procedures designed to identify and exclude material invalid click activity. Additionally, Advertisers can make similar assessments based on received clicks using either their internal evaluation procedures or those of other third party agents.

Detection procedures must include all of the following:

- Protocol Validation: the click request has an appropriate type (e.g. GET or POST) and response code (e.g. 300-series)
- Removal of Self-Announced Prefetch Activity: For example, Mozilla based prefetchers should set an X-MOZ HTTP header to a value of "prefetch." Prefetch ad requests should be blocked using a "403 denied" return code, to encourage counting clicks only upon direct user request for the ad and the required ad interaction.
- Removal of Suspected Invalid Click Activity, as follows:
    - Clicks Originating from IAB/ABCe International Spiders & Robots List (or some equivalent) or Known Invalid Signatures[**]
    - Clicks from Unknown Browser Types
        - Note: This is not a definitive criteria for excluding clicks; this is an indication requiring commercially reasonable investigation as to whether the click is more likely to be legitimate.
    - Clicks from Bad Proxy Servers
        - Note: This is not a definitive criteria for excluding clicks; this is an indication requiring investigation as to whether the click is more likely to be legitimate.
    - Activity-Based Filtration
        - These procedures are directed at identifying automated agents or other simulated human activity which may not be identified through Spiders & Robot List filtration
    - Internal IP Addresses or Internal Automated Activity
    - Other Internal Quality Guidelines and Invalid Click Identification Procedures which are established by the Publisher or Publisher's Agent (measured click) and Advertiser or Advertiser's Agent (received click)
        - These "other" unique and proprietary filtration procedures are subject to auditor review, but not public disclosure; the requirement is that these custom procedures represent significant and robust control procedures. Invalid clicks are often difficult

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[**] Potential Signatures of Invalid Agents: (1) traffic sources are invalid or (2) missing data or identifiers in logs that suggest possible invalid sources, for example, no IP address or referrer information. These parameters are established at the discretion of the measurement organization.

to detect and dynamic, therefore adequate internal control procedures are expected.

Notes:

All Filtration Procedures, including "Other Internal Quality Guidelines and Click Fraud Identification Procedures," must be subject to audit for reasonableness and completeness as part of measurement certification (see "Auditing" section below).

Insofar as commercially reasonable, suspected invalid click sources identified by the Publisher should be tracked for recurring activity (and therefore removal) across all customers and campaigns of that Publisher. The click measurement organization should disclose the parameters under which such adjustments will be made (e.g., types of invalid sources considered, time period available for adjustment and materiality levels) to users in its description of methodology.

6.2. Filtration of General Activity

In addition to validity assessments described above, filtration of clicks to remove non-human activity is highly critical to more accurate and consistent counting. These filtration guidelines consist of two approaches: 1) Filtration based on specific identification of suspected non-human activity, and 2) Activity-based filtration (sometimes referred to as "pattern analysis"). Publisher and Publisher Agents as well as Advertisers or their Agents, where applicable, should employ both techniques in combination. Further, all parties are encouraged to adopt the strong filtration techniques.

Currently, robotic filtration is not required for Flash-based files or In-Unit Click activity. As automated agents evolve, this exception may need to be re-challenged.

Minimum Requirements - The following explains minimum filtration activity acceptable for compliance with this guideline:

6.2.1. Specific Identification Approach

6.2.1.1. Robot Instruction Files – Robot Instruction Files should be used.

6.2.1.2. Filtration Lists – URL, user agent, and client browser information should be used to exclude robots based on exact matches with a combination of two sources (or some equivalent): (1) The IAB/ABCe International Spider & Robots List and (2) IAB/ABCe International Known Browser Type List. In the case of (1), matches are excluded from measurements. For item (2) matches are included in measurements.

Note: Filtration occurring in third party activity audits is sufficient to meet this requirement.

6.2.1.3. Publisher "Test" or "Non-Commercial Clicks" or "Click Noise" – Internal Publisher clicks measured in the course of Publisher's click advertising business should be excluded from valid click counts. Material robotic or non-human traffic that arises from Publisher sources, for example IT personnel performing testing of web-pages, should be filtered and excluded from counts. A universal or organizational identification string for all internal generated traffic or testing activity is recommended to facilitate assessment, disclosure or removal of this activity as necessary.

6.2.1.4. Advertiser "Test" or "Non-Commercial Clicks" – Clicks generated in the course of ad-serving or ad-creative testing for non-production creative (once creative is placed onto production web-pages and subject to consumer activity, it is not considered "test"). If material, Clicks generated in the course of the Advertisers testing should also be filtered and excluded from valid click counts. *It is the Advertiser's responsibility* to communicate material testing or verification traffic to the Publisher (and Ad Network or Ad Exchange, if applicable) on a timely basis so that such traffic can be filtered from the counts prior to reporting.

6.2.2. Activity-Based Filtration

In addition to the specific identification technique described above, organizations should use activity-based filtration to help identify new robot-suspected activity and remove suspected invalid activity. Activity-based filtration helps identify likely robot/spider activity in log-file data and invalid click activity through the use of one or more analytical techniques. For example, organizations can analyze log files for:

- Multiple sequential activities – a certain number of ads, clicks or pages over a specified time period from one user.
    - o Certain proxy server structures (leading to dynamic addressing, etc.) can increase the difficulty of filtration and other click assessment internal controls – these situations should be considered when structuring click filtration procedures and assessing click counts for validity.
- Outlier activity – in certain cases, where very unusual patterns are noted, outlier activity may be filtered and excluded from valid click counts.
- Interaction attributes – consistent intervals between clicks or page/click throughs from a user;

- Other suspicious activity.

Measurement organizations should apply all of these techniques, unless in the judgment of the auditor and management (after running the techniques at least once to determine their impact), a specific technique is not necessary for materially accurate reporting. If a sub-set of these techniques is used, this should be re-challenged periodically to assure the appropriateness of the approach. Activity based filtration of clicks must be applied on a periodic basis, encouraged to include every reporting period. In all cases, organizations must have defined procedures surrounding scheduling and procedures for application of this filtering.

The intent of activity-based filtration is to use analytics and judgment to identify possible non-human activity for deletion (filtration) while not discarding potential, significant real visitor activity. Activity-based filtration is critical to provide an on-going "detective" or internal control for identifying new types or sources of non-human activity.

Publishers and Publisher Agents (and Advertiser or their Agents if applicable) should periodically monitor pattern analysis decision rule(s) to assure measurements are protected from robot/spider inflationary activity with a minimal amount of lost real visitor activity.

Note: Activity-based filtration occurring in third party activity audits is sufficient to meet this requirement, assuming it is performed with sufficient frequency.

Disclosure of Filtration Methodologies
Media companies and ad serving organizations should disclose their click measurement methodology to advertisers, agencies and other users of the click count data. These disclosures should be sufficient to afford the advertisers, agencies and users a thorough understanding of the click measurement methodology; however, these disclosures should not compromise the necessary security of click filtration systems. (For further guidance, see "Description of Methodology" below.)

Campaign Reporting
- Publisher-filtered invalid clicks (counts of filtered and removed transactions) should be made available to Advertisers or their Agents. Accordingly, count records maintained by Advertisers or their Agents (Resolved Clicks) should be adjusted accordingly.

- For a fixed period determined by the click measurement organization and significant parties in the click transaction stream (this period is referred to as the "pre-anonymized period"), electronic records of click measurement transactions should be maintained in

sufficient detail to allow for: (1) supporting that the transaction actually occurred, (2) review of a user identifier (in a level of detail that is reasonably sufficient for this purpose), and the ad and advertiser involved, and (3) establishing the unique nature of the click event to ensure non-duplication. After the pre-anonymized period, data can be anonymized to protect from disclosure of personal identification information, recognizing that after this anonymization process the information described above may be difficult or impossible to derive.

Since the accuracy and validity of click transactions (and transaction records) may be subject to testing in an audit process, there should be provision for either: (1) a pre-anonymized period of sufficient length to allow for adequate development of tests and establishing process validity; or (2) embedded data-capture tools that allow for the pre-determined collection of electronic records for this purpose in a secure environment.

- Click measurement organizations are encouraged to maintain click filtration procedures as current as possible and use filtration learning consistently across campaigns in a timely manner.

- Publishers and other click-based marketers should establish procedures to disclose revised valid click counts when significant invalid click activity is detected for the campaign for a commercially reasonable period after the original measurement. The click measurement organization should disclose the parameters under which such revisions will be made and the allowable timing for these revisions in its description of methodology.

7.   **Auditing Guidelines**

7.1. **General Auditing**

Third-party independent auditing is encouraged for all ad-serving applications used in the buying and selling process. This auditing is recommended to include both counting methods (including checks of the click counts themselves) and processing/controls as follows:

7.1.1. Counting Methods: Independent verification of activity for a defined period. Counting method procedures generally include a basic process review and risk analysis to understand the measurement methods, analytical review, validation of invalid click detection and exclusion procedures, validation of general filtration procedures and measurement recalculations.

7.1.1.1. The valid clicks counted must be less than or equal to the number of measured clicks sent to the Advertiser. If not, notification should occur and corrective action should be taken.

7.1.1.2. Organizations are encouraged to perform testing to determine the accuracy of counting and redirect methods used in complex (widely varying) production environments.

7.1.2. Processes/Controls: Examination of the internal controls surrounding the ad delivery, recording and measurement process of a click. Process auditing includes examination of the adequacy of ad-server applied invalid click and filtration techniques and searching for time-periods when filtration procedures were not applied.

7.1.3. Again, all Filtration Procedures, including "Other Internal Quality Guidelines and Click Fraud Identification Procedures," must be subject to audit for reasonableness and completeness as part of measurement certification.

7.2. US Certification

All click-measurement applications used in the buying and selling process are recommended to be certified as compliant with these guidelines. This recommendation is strongly supported by the American Association of Advertising Agencies (AAAA), and other members of the buying community, for consideration of measurements as "currency." There are a number of certifiers and types and levels of certification available to click serving organizations.

7.2.1. Special Auditing Guidance for Outsourced Click Measurement Software

Click serving organizations that market ad-serving/delivery/measurement software to publishers for use on the publisher's IT infrastructure (i.e., "outsourced") should consider the following additional guidance:

- The standardized ad-serving software should be certified on a one-time basis at the ad-serving organization, and this certification applied to each customer. This centralized certification is required, at minimum, annually.
- Each customer's infrastructure (and any modifications that customer has made to the ad-serving software, if any) should be individually audited to assure continued functioning of the software and the presence of appropriate internal controls. Processes performed in the centralized certification applicable to the outsourced software are generally not re-performed. The assessment of customer internal controls (and modifications made to outsourced software, if any) is also recommended as an annual procedure.

Significant changes to an organization's click measurement methodology necessitate timely re-auditing.

7.2.2. Special Auditing Guidance for Advertisers, Agencies or Their Agents

Agencies - General and Process auditing, as outlined above, is recommended for Agencies who enter or initiate campaigns using their own or outsourced systems or those Agencies that modify or otherwise manipulate measurements from certified Publishers or Publisher Agents. Additionally, agencies often initiate and enter campaign data using their own internal control infrastructure. These functions should be subject to auditor assessment.

Advertisers - The transaction stream for click processing includes activity recordable and analyzable at the Advertiser's web site. Access to this transaction stream means Advertisers can provide valuable and necessary information to assist in invalid click filtration.

Third-party Auditors – Third-party Auditors of click measurements (generally Agents of Advertisers) should follow these guidelines insofar as applicable and fully disclose, insofar as commercially reasonable, their processes to Advertiser customers and applicable Publishers. Additionally, a periodic (annual) Industry oversight certification audit of third-party auditors is encouraged, similar to the measurement certification of Publisher organizations.

8.   General Reporting Parameters

Click Measurement reporting should be consistent with the parameters set forth in Section 5 of the Interactive Audience Measurement and Advertising Campaign Reporting and Audit Guidelines (US Version), June 2004. In order to provide for more standardization in Click Measurement reporting, the following general reporting parameters are recommended:

Day – Daily reporting of 12:00 AM (midnight) to 12:00 AM plus additional daily reporting, at Publisher's discretion;

Time Zone – Time zone used should be disclosed on the Click Measurement report;

Week – At Publisher's discretion, Weekly reporting of Monday thru Sunday may be provided; this includes Weekparts: M-F, M-Sun, Sat, Sun, Sat-Sun;

Month – Three monthly reporting methods chosen at Publisher's discretion and to be disclosed on the Click Measurement report:

- o TV Broadcast – Month begins on the Monday of the week containing the first full weekend of the month. Using this parameter may require adjustment of day requirements to fit with a broadcast day.
- o Four Week Period – Consistent with Off-Line media, 13 Four Week periods per year.
- o Calendar Month – Begins on the first day and ends on the last day of the Month – often used for financial reporting purposes.

9. Description of Methodology

Publishers should make available a Description of Methodology (DOM) document to users of the advertising measurements, including a description of manual and automated invalid click filtration processes. Additionally, Advertisers and/or third-party auditors of click measurements will make a similar DOM available.
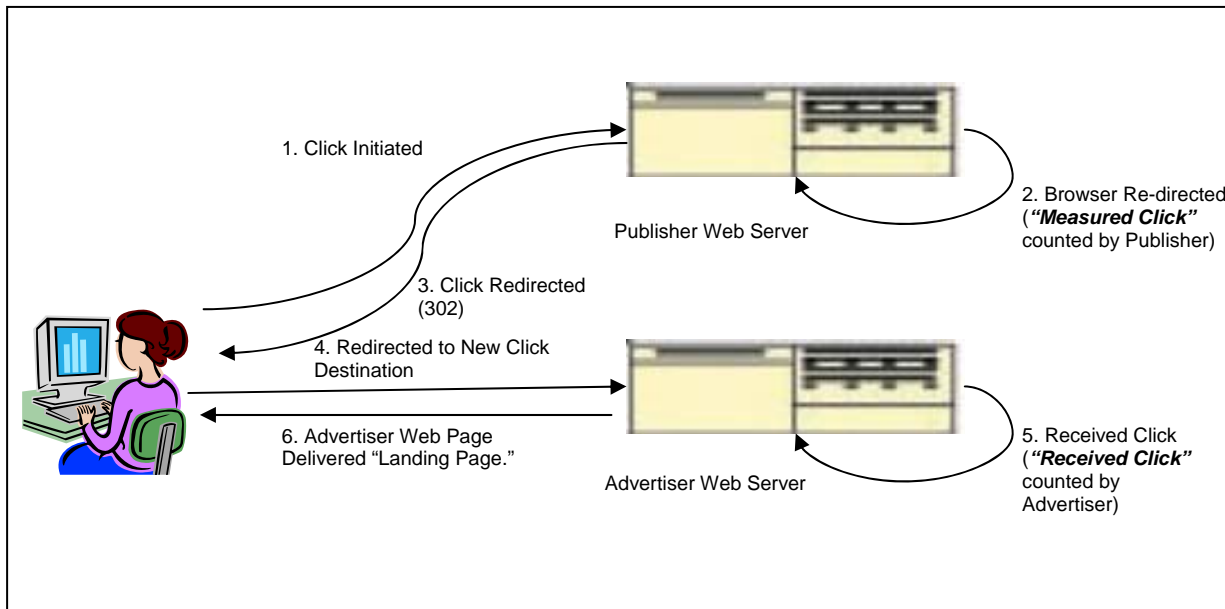
The DOM should provide sufficient detail to establish that employed processes conform with IAB Guidelines, but not to a level of detail that might either allow other parties to misappropriate invalid click filtration techniques/technologies, or for competitors to gain from knowledge of the specific procedures. All such information, however, will be made available to Industry oversight auditors in conjunction with annual certifications.

The DOM should describe the particular counting and reporting methods used. For custom arrangements made specifically between publishers and marketers or agencies, confirmation of these specific terms should be fully disclosed to the transaction participants. Additionally, the DOM should include procedures for adjusting click measurements for invalid activity from both a count and financial perspective.
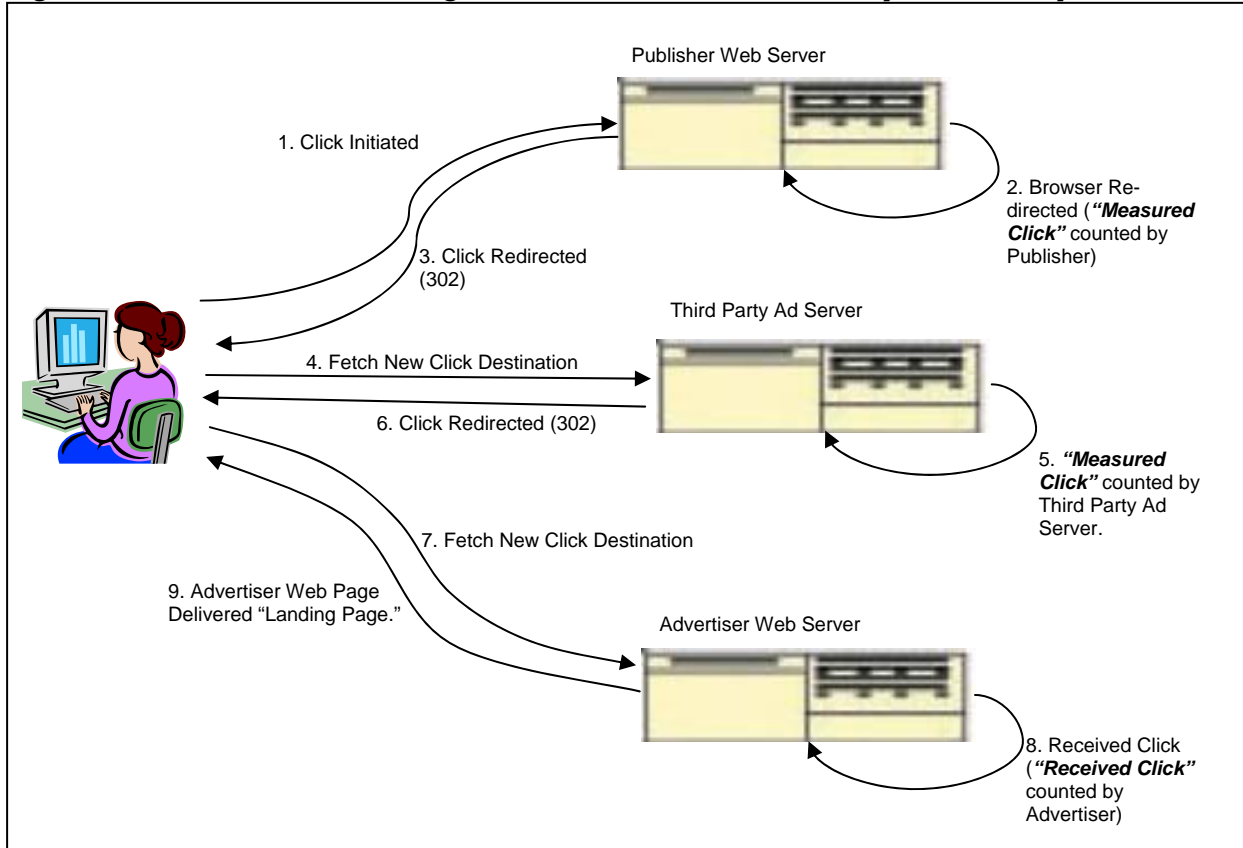
For a better understanding of what a DOM may look like, please see Appendix B.

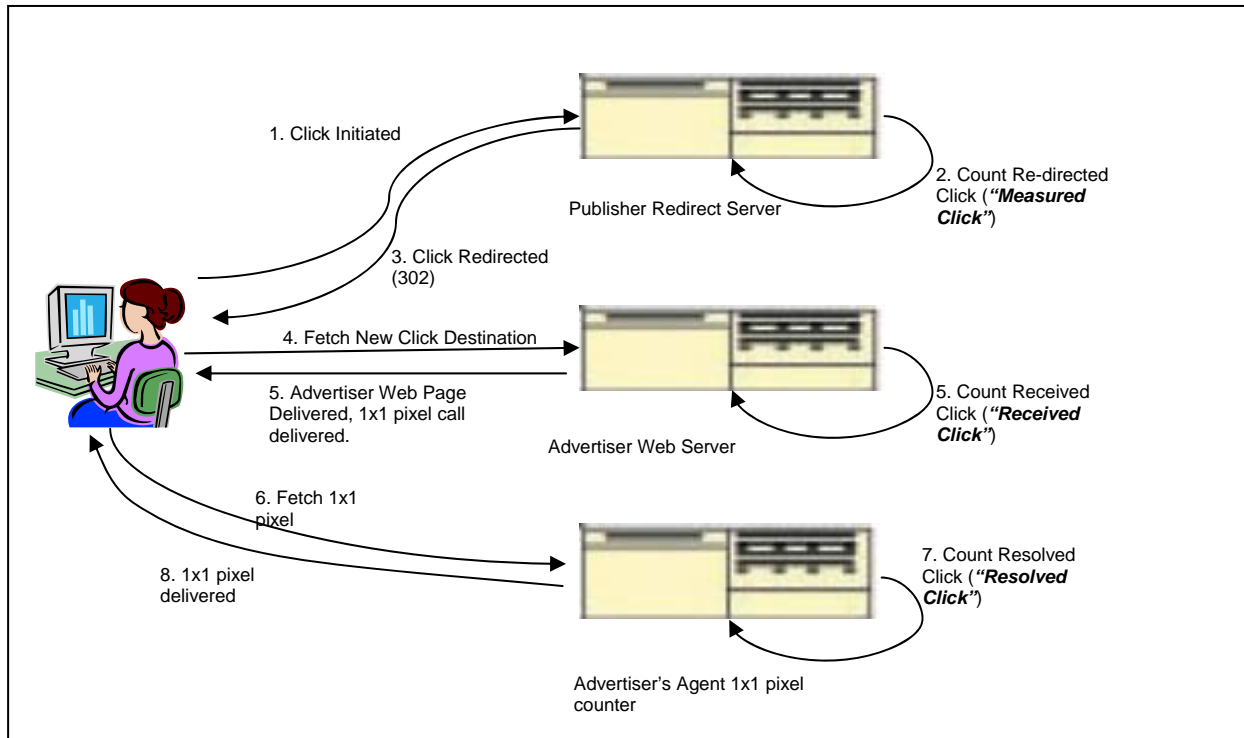## Appendix A: Click Process Schematics

Fig. 1a – Advertiser Measuring Received Click (Ad Served by Publisher or Search Provider)
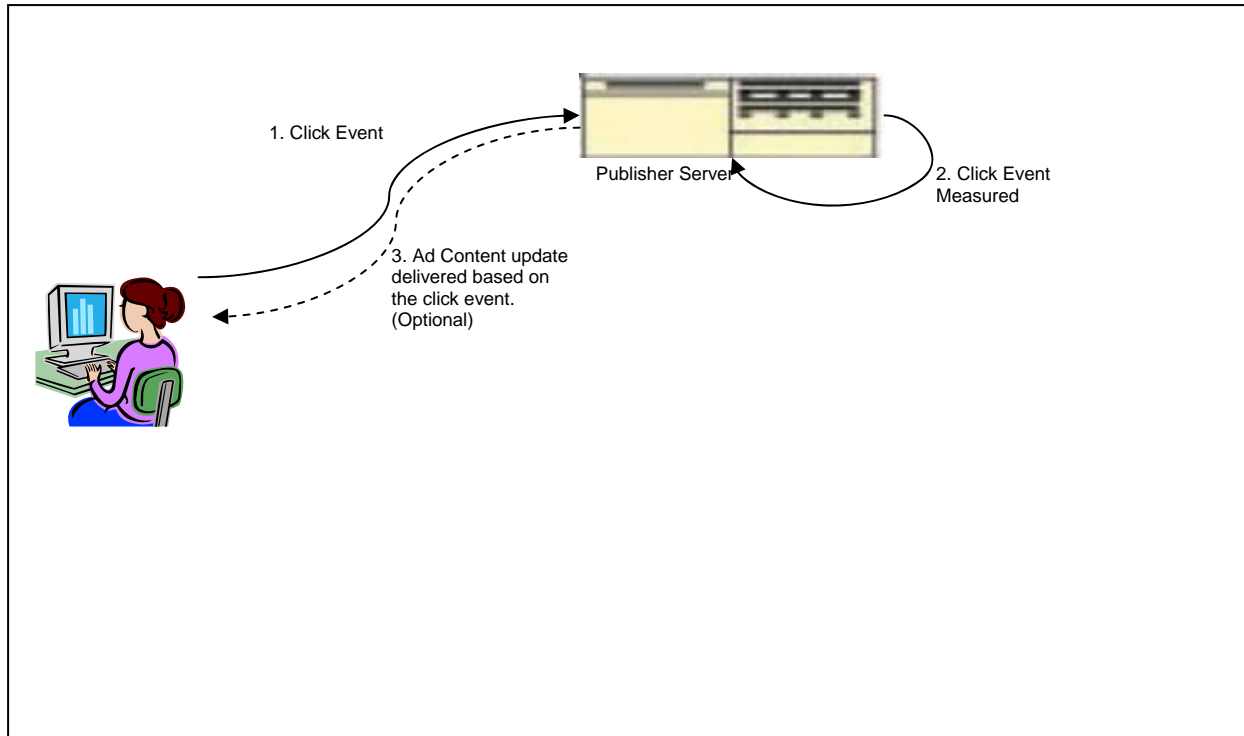
Fig. 1b– Advertiser Measuring Received Click (Ad served by Third Party Ad Server)

Publisher Web Server

1. Click Initiated

2. Browser Re-directed (*"Measured Click"* counted by Publisher)

3. Click Redirected (302)

Third Party Ad Server

4. Fetch New Click Destination

6. Click Redirected (302)

5. *"Measured Click"* counted by Third Party Ad Server.

7. Fetch New Click Destination

9. Advertiser Web Page Delivered "Landing Page."

Advertiser Web Server

8. Received Click (*"Received Click"* counted by Advertiser)

Fig. 2 - Advertiser Measuring Received Click & Advertiser Agent Measuring Resolved Click

Fig. 3 – Publisher Measuring In-Unit Click

1. Click Event

Publisher Server

2. Click Event Measured

3. Ad Content update delivered based on the click event. (Optional)

Appendix B: Sample Description of Methodology (DOM)

This Description of Methodology is a summary of the click measurement processes employed by
_____(the Click Measurement Organization), including a general description of the
click measurement methodology, filtration processes and reporting procedures.

What is Included in the Audit Process

[Insert a description of the company's systems, software, technology platform, sites, pages ad types,
ad placements, etc. that are included within the scope of the audit process, and therefore within this
DOM.   This should also include any trade names used if click measurement, click auditing, etc. are
known by any branded name, as well as any standard names or titles utilized to brand reports used
by the company to publish the results to advertisers or other clients/subscribers. Lastly, using the click-
referral cycle, the company should describe which click types are included within the scope of the
audit process and therefore as the subject of this DOM.]

What is Not Included in the Audit Process

[Insert a description of the company's systems, software, technology platform, sites, pages ad types,
ad placements, trade names, report titles and click types (based on the click-referral cycle) that are
NOT included within the scope of the audit process, and therefore within this DOM]

Click Measurement Methodology

[If sampling is used in any manner, such sampling procedures should be fully disclosed here,
including limitations associated with using a sample-based approach. Otherwise, a statement should
be included indicating that the measurement methodology is based on all click activity recorded.]

[Provide a description of the type of click(s) report by the company (based on the click-referral cycle)
that is the subject of the audit process and this DOM. This may be based upon the wording included
in the IAB Click Measurement Guidelines for the click type (e.g., Measured Click).]

   [For each click type, the DOM should describe the following:
   - Measurement trigger (e.g., a measured click is recorded when the ad server successfully
     sends an HTTP 302 redirect in response to an initiated click, and is recorded in the server log
     files). NOTE: if more than one methodology is used as the measurement trigger, based on
     ad type or other factors, each measurement trigger should be described.
   - Limitations associated with the specific measurement trigger being utilized (e.g., latency can
     result in a 302 being counted, although a user may abandon the transaction before arriving
     at the landing page).
   - Counting methodology utilized – "one-click-per-impression" or "multiple-click-per-impression"
     method. The description of which method is utilized may be based upon the wording
     included in the IAB Click Measurement Guidelines.

- Disclosure of the company's knowledge of underlying ad impression transaction. This may not be an all-or-none situation depending upon several factors; therefore, an appropriate disclosure may involve describing in what situations the company has knowledge of underlying ad impression transaction, and in what situations it does not. Additionally, if possible a general objective measure should be provided. For example: "For approximately 50% of our Measured Clicks, we do not have knowledge of the underlying ad impression transaction due to the following factors...".]

[A brief description of the logging method, logging frequency, types of data collected, and contents of the log files and frequency of retrieval and processing should be provided.]

[A brief description of other information utilized in the measurement methodology, if any, should also be provided. This would include, but not be limited to, the use of cookies, user registration information, etc. Additionally, if user identification methods are employed, the basis of the identification should be described (e.g., registrations, cookies, and heuristics). NOTE: in order to protect the security of the filtration processes discussed later, the specific heuristic methods would not require disclosure. The disclosure should only indicate heuristics are utilized as a means to identify users.)]

Filtration Methodology

A general statement indicating that processes exist to attempt to identify and exclude invalid click activity, such as the following. should be included here:

[Ex. "The company employs techniques based on identifiers, activity and patterns based on data in the log files in an attempt to identify and filter (exclude) invalid click activity, including but not limited to non-human click activity and suspected click fraud. However, because user identification and intent cannot always be known or discerned by the publisher, advertiser or their respective agents, it is unlikely that all invalid click activity can be identified and excluded from the reported results.

In order to protect click filtration processes from becoming compromised or reverse-engineered, no details of specific filtration procedures, beyond those detailed in the Click Guidelines, will be disclosed, other than to auditors as part of the audit process."]

[Provide a detailed list of the measures used that also appear in the Click Measurement Guidelines.]

Filtration Parameters
- If filtration procedures are performed by a third-party on behalf of the company (such as part of a third-party activity audit), this should be disclosed.
- The use of robot instruction files (e.g., in the root directory of the redirect server)

- The sources used for specific identification of non-human activity.
    - o Ex. IAB/ABCe International Spiders & Robots List, which includes both an include and exclude file
    - o Alternative exclude or include lists
        - ▪ If alternative lists are utilized, a description of and the frequency of procedures employed to confirm the alternative is equivalent to the IAB lists should be disclosed.
- Activity based filtration processes are employed, but details of these processes will not be disclosed except to auditors as part of the audit process
- Processes to remove self-announced pre-fetch activity
- Processes to remove internally generated click testing (non-commercial) activity whether generated using manual or automated techniques
- A notation that advertisers (or their agents) must provide test/non-commercial clicks on non-production creative in order for this activity to be excluded

[If any of the above described filtration procedures are applied to some subset of activity (and not to all activity), the situation should be fully disclosed. For example, if robotic filtration procedures are not applied against click activity associated with flash-based impressions or to in-unit click activity, this should be fully disclosed.]

[Any additional processes that filter, edit or discard initially recorded click activity should be disclosed. This would include rules for handling inconsistencies, circumstances for discarding data, treatment of incomplete or corrupted log data, handling of data retrieved to late for inclusion in the initial processing, etc.]

Data Reporting

[Describe the data reported to advertisers, clients and/or subscribers, including the use of any estimation procedures.]

[Describe reporting parameters such as if the company designates reported data as "Preliminary" for a defined period, and as "Final" after that defined period of time from the time the activity was initially generated (e.g., data are considered preliminary for five business days, after which they are considered final data unless otherwise noted).]

[Describe procedures to report invalid click filtration volumes (of measured clicks) to advertisers or their ages (received clicks).]

[Describe pre-release quality assurance procedures (verification or other quality control processes to ensure the accuracy of reported data).]

[Describe situations, parameters and relevant thresholds in which data will be reissued. For example: "Revised click counts will be reported when [significant invalid click activity is detected for a

campaign], after initial reporting but within [state period – must be commercially reasonable] time period."]

[Disclose retention period for electronic records.]