Interactive Audience Measurement and Advertising Campaign Reporting and Audit Guidelines

Background

Consistent and accurate measurement of Internet advertising is critical for acceptance of the Internet and is an important factor in the growth of Internet advertising spending.

This document establishes a detailed definition for ad-impressions, which is a critical component of Internet measurement and provides certain guidelines for Internet advertising sellers (herein referred to as "media companies" or "sites") and ad serving organizations (including third-party ad servers and organizations that serve their own ads) for establishing consistent and accurate measurements.

The definitions included in this document and the applicable project efforts resulted from requests from the American Association of Advertising Agencies (AAAA) and other members of the buying community, who asked for establishment of consistent counting methods and definitions and for improvement in overall counting accuracy. The definitions and guidelines contained in this document originated from a two-phase project led by the Interactive Advertising Bureau (IAB) and facilitated by the Media Rating Council (MRC), with the participation of the Advertising Research Foundation (ARF), as a result of these requests. Phase 1 was conducted from May through December 2001, and Phase 2, which resulted in the current Version 2.0, was conducted during 2003 and 2004. Both phases are described in more detail below.

FAST Definitions (dated September 3, 1999; FAST was an organization formed by Procter & Gamble and the media industry to address Internet measurement issues several years ago which is no longer active) were considered in preparation of this document. The original FAST language was maintained wherever possible.

Definitions of terms used in this document can be found in the IAB's Glossary of Interactive Terms.

The IAB's Ad Campaign Measurement Project

In May 2001 the IAB initiated a project intended to determine the comparability of online advertising measurement data provided by a group of Internet organizations. The MRC, ABC Interactive, and the ARF also participated in the project, with the MRC initially designing the project approach and acting as facilitator of many of the project discussions.

The project had two important phases:

1. Identification and Categorization of measurement methods used by the project participants, and

2. Analysis of the numeric differences in counts arising from certain measurement options for Ad Impressions, as well as the numeric differences between client and server-initiated counting of Ad Impressions.

Information gathered in both phases was used to create the ad impression definition contained herein.

The IAB, MRC and ARF, in subsequent phases of this project, plan to further refine the counting metrics beyond Ad Impressions – i.e., Clicks, Page Impressions, Unique Visitors and Browsers, and other emerging media delivery vehicles. These definitions will be added to this document as subsequent phases are completed. Additionally, when the follow-up phases of this project are executed (for example, the next phase "Clicks" will be initiated later in 2004), the project participants plan to re-assess the applicability of the ad-impression guidance contained herein and make such modifications as new technology or methodology may dictate.

Phase 1 – Establishment of Initial Guidelines and Metrics

The IAB commissioned PricewaterhouseCoopers LLP (PwC) to perform the testing and data gathering required by Phase 1 of the project, which included identifying common measurement metrics, definitions and reporting practices, as well as highlighting areas of measurement diversity among the project participants. Additionally, PwC prepared a report (available to the IAB, MRC, ARF and project participants) that aggregated the findings, identified common trends and metrics and proposed an initial draft of a common set of industry definitions for several of the project metrics.

PwC's report was used as a basis for later participant discussions and in deriving the definitions and guidelines contained herein. Ten Internet organizations were chosen by the IAB and requested to participate in the project as follows:

- Three Ad Networks or Ad Serving Organizations
- Four Destination Sites
- Four Portal Sites

The following organizations participated in the project: AOL, Avenue A, CNET Networks Inc., Walt Disney Internet Group, DoubleClick, Forbes.net, MSN, New York Times Digital, Terra Lycos and Yahoo!

When combined, the participants' ad revenues represent nearly two-thirds of total industry revenue.

All of the participating organizations supplied information to PwC on their measurement criteria and practices and cooperated in necessary interviews and testing used as the basis for PwC's report.

PwC's procedures included: (1) interviews with employees of participating organizations, (2) reviews of policies, definitions and procedures of each participating organization, (3) execution of scripted testing to assess the collection and reporting systems of the participating organizations, and (4) analyses of results for differences and for the purpose of suggesting consistent definitions.

Phase 2 – Refinement of Guidelines and Specific Ad Impression Counting Guideline

Phase 2 of the project included data analysis and discussion between extensive groups of participants including: (1) the Phase 1 team (now called the "Measurement Task Force" of the

IAB), (2) additional ad-serving organizations, and (3) the MRC. The project team for phase 2 did not include ABC Interactive or PwC.

Additionally, the Interactive Committee of the American Association of Advertising Agencies was provided with updates and periodic status checks to assure that project directions and findings were consistent with the expectations of the buying marketplace.

Certain analyses were performed by ImServices, which were used in the assessment of changes proposed to filtration guidelines.

Project Participants

International Ad Servers

AdTech (Germany)
ALLYES (China)
Aufeminin (France)
CheckM8 (US/UK/Israel)
Cossette/Fjord Interactive (Canada)
Falk AG (Germany)
JNJ Interactive (Korea)
Iprom (Slovenia)
Predicta (Brazil)

Other Participants

ABCE/IFABC (Europe)
Advertising Research Foundation (U.S.)
Amer. Assoc. of Ad Agencies (U.S.)
Association of National Advertisers (U.S.)
EACA (Europe)
EIAA (Europe)
ESOMAR (Europe)
IAB Argentina
IAB Europe
IM Services (U.S.)
Interactive Media Association (Brazil)
Media Rating Council (U.S.)
PricewaterhouseCoopers LLP
JIAA (Japan)

U.S. (* = non-publisher)

24/7 Real Media
About.com
Accipiter*
Advertising.com
AOL
Atlas DMT*
BlueStreak *
CentrPort*
CheckM8*
CNET Networks
Disney Internet Group
DoubleClick*
Fastclick
Falk North America*
Focus Interactive/Excite Network
Forbes.com
Google
I/PRO*
Klipmart*
MSN
NY Times Digital
Overture
Poindexter Systems*
Red Sheriff*/Nielsen NetRatings
Value Click
Weather Channel Interactive
Yahoo!
Zedo.com*

Scope and Applicability

These guidelines are intended to cover on-line browser or browser-equivalent based Internet activity.

Wireless, off-line cached media and Interactive-based television were not addressed in these guidelines due to differences in infrastructure and/or delivery method. Additionally, newer

extended metrics that are just beginning to be captured by media companies; such as "flash tracking," or flash sites are not addressed in this document and will be addressed at a later time.

This document is principally applicable to Internet media companies and ad-serving organizations and is intended as a guide to accepted practice, as developed by the IAB, MRC and ARF. Additionally, Internet planners and buyers can use this document to assist in determining the quality of measurements.

Contents

This document contains the following sections:

1. Measurement Definitions

The following presents the guidance for "Ad Impression" counting resulting from Phase 2 of the Project, which is considered finalized:

Ad Impression – A measurement of responses from an ad delivery system to an ad request from the user's browser, which is filtered from robotic activity and is recorded at a point as late as possible in the process of delivery of the creative material to the user's browser — therefore closest to actual opportunity to see by the user (see specifics below).

Two methods are used to deliver ad content to the user – server-initiated and client-initiated. Server initiated ad counting uses the site's web content server for making requests, formatting and re-directing content. Client-initiated ad counting relies on the user's browser to perform these activities (in this case the term "client" refers to an Internet user's browser).

This Guideline requires ad counting to use a client-initiated approach; server-initiated ad counting methods (the configuration in which ad impressions are counted at the same time the underlying page content is served) are not acceptable for counting ad impressions because they are the furthest away from the user actually seeing the ad. The following details are key components of the Guideline:

1. A valid ad impression may only be counted when an ad counter receives and responds to an HTTP request for a tracking asset from a client. The count must happen after the initiation of retrieval of underlying page content. Permissible implementation techniques include (but are not limited to) HTTP requests generated by <IMG>, <IFRAME>, or <SCRIPT SRC>. For client-side ad serving, the ad content itself could be treated as the tracking asset and the ad server itself could do the ad counting.

2. The response by the ad counter includes but is not limited to:

   a. Delivery of a "beacon," which may be defined as any piece of content designated as a tracking asset. Beacons will commonly be in the form of a 1x1 pixel image, but the Guideline does not apply any restrictions to the actual media-type or content-type employed by a beacon response.

   b. Delivery of a "302" redirect or html/javascript (which doubles as a tracking asset) to any location, and

   c. Delivery of ad content

3. Measurement of any ad delivery may be accomplished by measuring the delivery of a tracking asset associated with the ad.

4. The ad counter must employ standard headers on the response, in order to minimize the potential of caching. The standard headers will include the following:

- Expiry
- Cache-Control
- Pragma

See section 2 of this document entitled Caching Guidelines for further information.

5. One tracking asset may register impressions for multiple ads that are in separate locations on the page; as long as reasonable precautions are taken to assure that all ads that are recorded in this fashion have loaded prior to the tracking asset being called (for example the count is made after loading of the final ad). This technique can be referred to as "compound tracking." Use of compound tracking necessitates that the ad group can only be counted if reasonable assurance exists that all grouped ads load prior to counting, for example through placing the tracking asset at the end of the HTML string.

As a recommendation, sites should ensure that every measured ad call is unique to the browser. There are many valid techniques available to do this, (including the generation of random strings directly by the server, or by using JavaScript statements to generate random values in beacon calls).

Other Ad-Impression Considerations

Robot filtration guidelines are presented later in this document. Appropriate filtration of robotic activity is critical to accurate measurement of ad impressions.

Media companies and ad serving organizations should fully disclose their ad impression recording process to buyers and other users of the ad impression count data.

See Appendix A for illustrations of ad impression counting methods considered acceptable based on the guidance contained herein.

2. Caching Guidelines

Cache busting techniques are required for all sites and ad-serving organizations. The following techniques are acceptable:

1. HTTP Header Controls
2. Random Number assignment techniques to identify unique serving occurrences of pages/ads.

Publishers and ad serving organizations should fully disclose their cache busting techniques to buyers and other users of their data.

3. Filtration Guidelines

Filtration of site or ad-serving transactions to remove non-human activity is highly critical to accurate, consistent counting. 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"). Each organization should employ both techniques in combination. **Organizations are encouraged to adopt the strongest possible filtration techniques.**

Minimum Requirements

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

Specific Identification Approach:

- Robot Instruction Files are used.

- URL, user agent, and client browser information is used to exclude robots based on exact matches with a combination of two sources: (1) The IAB Industry Robot List and (2) a list of known Browser-Types published by the IAB. In the case of (1), matches are excluded from measurements. For item (2) matches are included in measurements. (Note that filtration occurring in third party activity audits is sufficient to meet this requirement.)

- Disclose company-internal traffic on a disaggregated basis. If company-internal traffic is material to reported metrics and does not represent exposure to ads or content that is qualitatively similar to non-internal users, remove this traffic. Additionally remove all robotic or non-human traffic arising from internal sources, for example IT personnel performing testing of web-pages. A universal or organizational identification string for all internal gener-ated traffic or testing activity is recommended to facilitate assessment, disclosure or removal of this activity as necessary.

Activity-based Filtration:

- In addition to the specific identification technique described above, organizations are required to use some form of activity-based filtration to identify new robot-suspected activ-ity. Activity-based filtration identifies likely robot/spider activity in log-file data through the use of one or more analytical techniques. Specifically, organizations can analyze log files for:

  o Multiple sequential activities – a certain number of ads, clicks or pages over a speci-fied time period from one user,

  o Outlier activity – users with the highest levels of activity among all site visitors or with page/ad impressions roughly equal to the total pages on the site,

  o Interaction attributes – consistent intervals between clicks or page/ad impressions from a user

  o Other suspicious activity – users accessing the robot instruction file, not identifying themselves as robots. Each suspected robot/spider arising from this analysis requires follow-up to verify the assumption that its activity is non-human.

  Sites should apply all of these types of 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 are used, this should be re-challenged periodically to assure the appropriate-ness of the approach.

- Activity Based filtration must be applied on a periodic basis, with a minimum frequency of once per quarter. Additionally Activity Based filtration should be run on an exception basis in order to check questionable activity. In all cases Organizations must have defined proce-dures surrounding the schedule and procedures for application of this filtering.

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

An organization should periodically monitor its pattern analysis decision rule(s) to assure measure-ments are protected from robot/spider inflationary activity with a minimal amount of lost real visitor

activity. Additionally, publishers and ad serving organizations should fully disclose the significant components of their filtration process to buyers and other users of their data.

4. Auditing Guidelines

General – 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 and processing/controls as follows:

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, transaction authentication, validation of filtration procedures and measurement recalculations. Activity audits can be executed at the campaign level, verifying the activity associated with a specific ad creative being delivered for performance measurement purposes.

2. Processes/Controls: Examination of the internal controls surrounding the ad delivery, recording and measurement process. Process auditing includes examination of the adequacy of site or ad-server applied filtration techniques.

Although audit reports can be issued as infrequently as once per year, some audit testing should extend to more than one period during the year to assure internal controls are maintained. Audit reports should clearly state the periods covered by the underlying audit testing and the period covered by the resulting certification.

Special Auditing Guidance for Outsourced Ad-Serving Software

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

1. The standardized ad-serving software should be certified on a one-time basis at the ad-serving organization, and this certification is applied to each customer. This centralized certification is required at minimum annually.

2. 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 to be at minimum an annual procedure.

These certification procedures are only necessary for outsource clients who wish to present their measurements for use by buyers.

Special Auditing Guidance for Advertising Agencies or Other Buying Organizations

If buying organizations modify or otherwise manipulate measurements from certified publishers or ad-servers after receipt, auditing of these activities should be considered.

5. General Reporting Parameters

In order to provide for more standardization in Internet Measurement reporting, the following general reporting parameters are recommended:

Day — 12:00 midnight to 12:00 midnight

Time Zone – Full disclosure of the time-zone used to produce the measurement report is required. It is preferable, although not a current compliance requirement, for certified publishers or ad-servers to have the ability to produce audience reports in a consistent time-zone so buyers can

assess activity across measurement organizations. For US-based reports it is recommended that reports be available on the basis of the Eastern time-zone, for non US-based reports this is recommended to be GMT.

Week — Monday through Sunday

Weekparts — M-F, M-Sun, Sat, Sun, Sat-Sun

Month – Three reporting methods: (1) TV Broadcast month definition. In this definition, the Month begins on the Monday of the week containing the first full weekend of the month, (2) 4-week periods – (13 per year) consistent with media planning for other media, or (3) a calendar month. For financial reporting purposes, a month is defined as a calendar month.

Additional Recommendation: Dayparts – Internet usage patterns need further analysis to determine effective and logical reporting day parts. We encourage standardization of this measurement parameter.

6. Disclosure Guidance

An organization's methodology for accumulating Internet measurements should be fully described to users of the data.

Specifically, the nature of Internet measurements, methods of sampling used (if applicable), data collection methods employed, data editing procedures or other types of data adjustment or projection, calculation explanations, reporting standards (if applicable), reliability of results (if applicable) and limitations of the data should be included in the disclosure.

The following presents examples of the types of information disclosed.

Nature of Internet Measurements

- Name of Property, Domain, Site, Included in the Measurement
- Name of Measurement Report
- Type of Measurements Reported
    - o Time Periods Included
    - o Days Included
    - o Basis for Measurement
    - o Geographic Areas
    - o Significant Sub-Groupings of Data
- Formats of Reported Data
- Special Promotions Impacting Measurements
- Nature of Auditing Applied and Directions to Access to Audit Report
- Sampling/Projections Used
    - o Sampling Methods Used for Browsers not Accepting Cookies or Browsers with New Cookies
    - o Explanation of Projection Methods

Data Collection Methods Employed

- Method of Data Collection
    - o Logging Method
    - o Logging Frequency

- Logging Capture Point
- Types of Data Collected
    - Contents of Log Files
    - Cookie Types
- Contacts with Users (if applicable)
- Research on Accuracy of Basic Data
    - Cookie Participation Percentages
    - Latency Estimates
- Rate of Response (if applicable)

Editing or Data Adjustment Procedures

- Checking Records for Completeness
- Consistency Checks
- Accuracy Checks
- Rules for Handling Inconsistencies
- Circumstances for Discarding Data
- Handling of Partial Data Records
    - Ascription Procedures

Computation of Reported Results

- Description of How Estimates are Calculated
    - Illustrations are desirable
- Weighting Techniques (if applicable)
- Verification or Quality Control Checks in Data Processing Operations
- Pre-Release Quality Controls
- Reprocessing or Error Correction Rules

Reporting Standards (if applicable)

- Requirements for Inclusion in Reports, Based on Minimum Activity Levels

Reliability of Results

- Sampling Error (if applicable)

Limitations on Data Use

- Non-sampling Error
- Errors or Unusual Conditions Noted in Reporting Period
- Limitations of Measurement, such as Caching, Multiple Users per Browser, Internet latency

7. Conclusion and Contact Information

This document represents the combined effort of the IAB (with PWC and ABCi in Phase 1), the project participants, MRC and ARF to bring consistency and increased accuracy to Internet measurements. We encourage adoption of these guidelines by all organizations that measure Internet activity and wish to have their measurements included for consideration by buyers.

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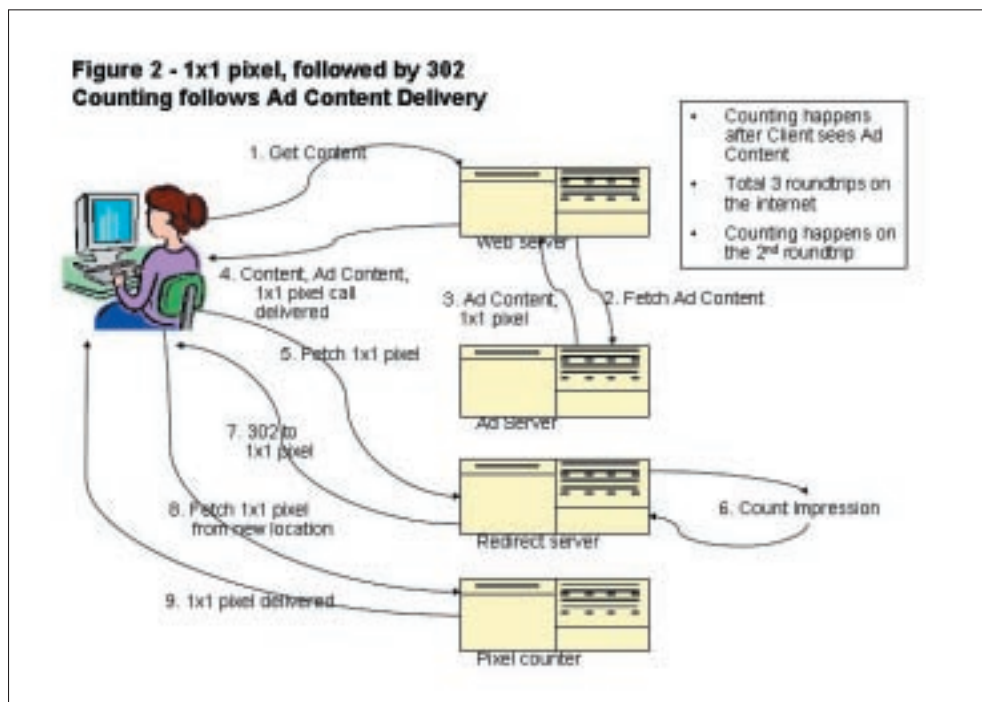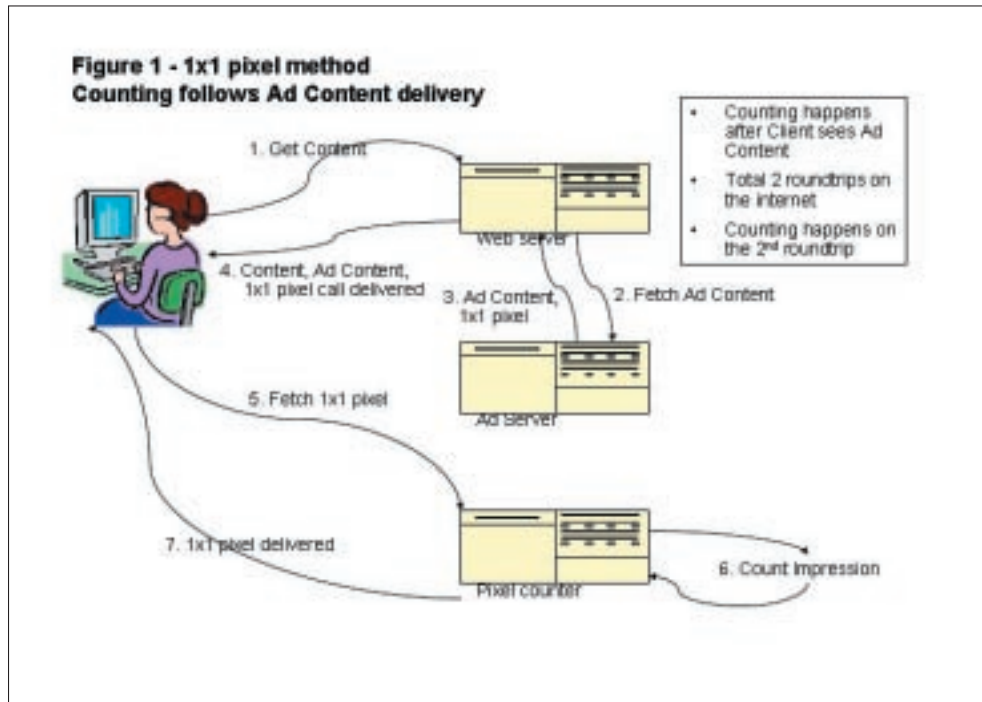richard.foan@abce.org.uk

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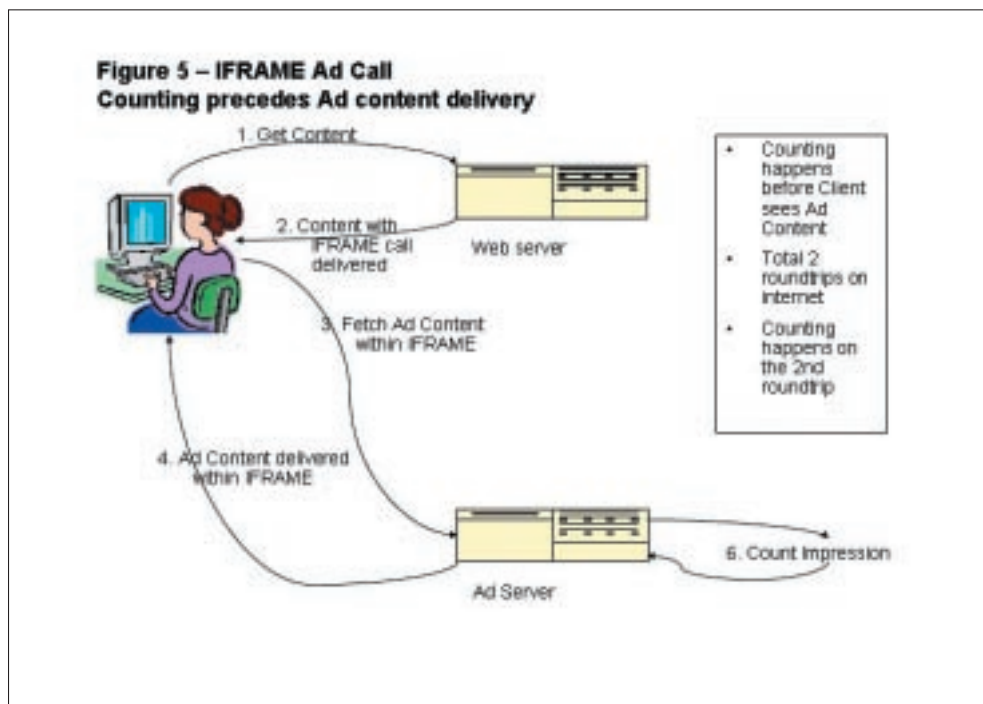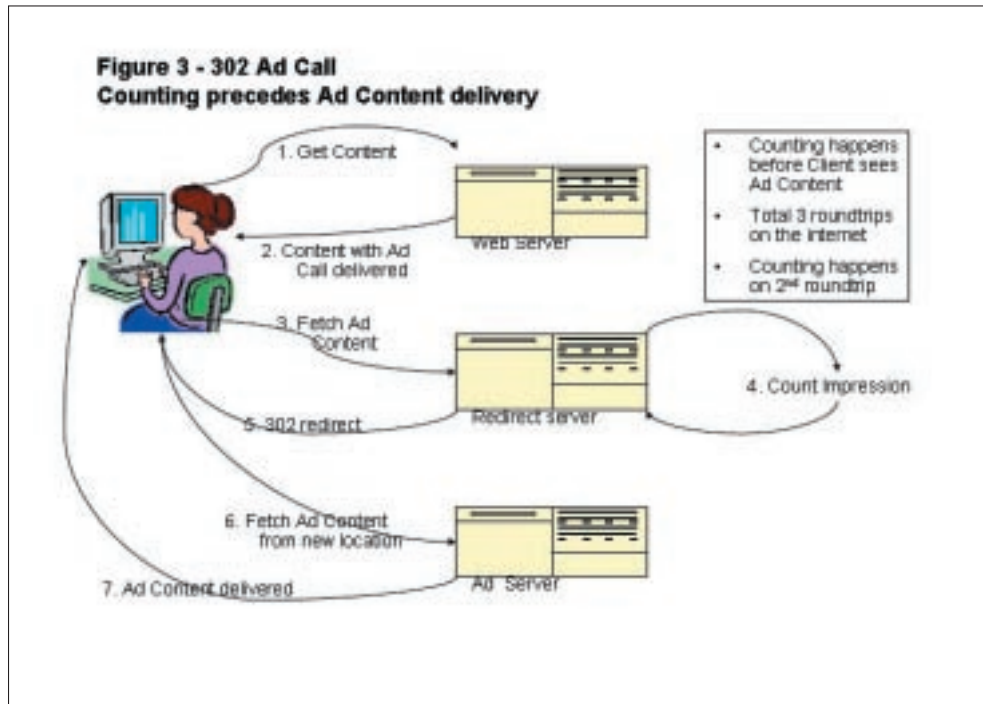New York, NY 10017
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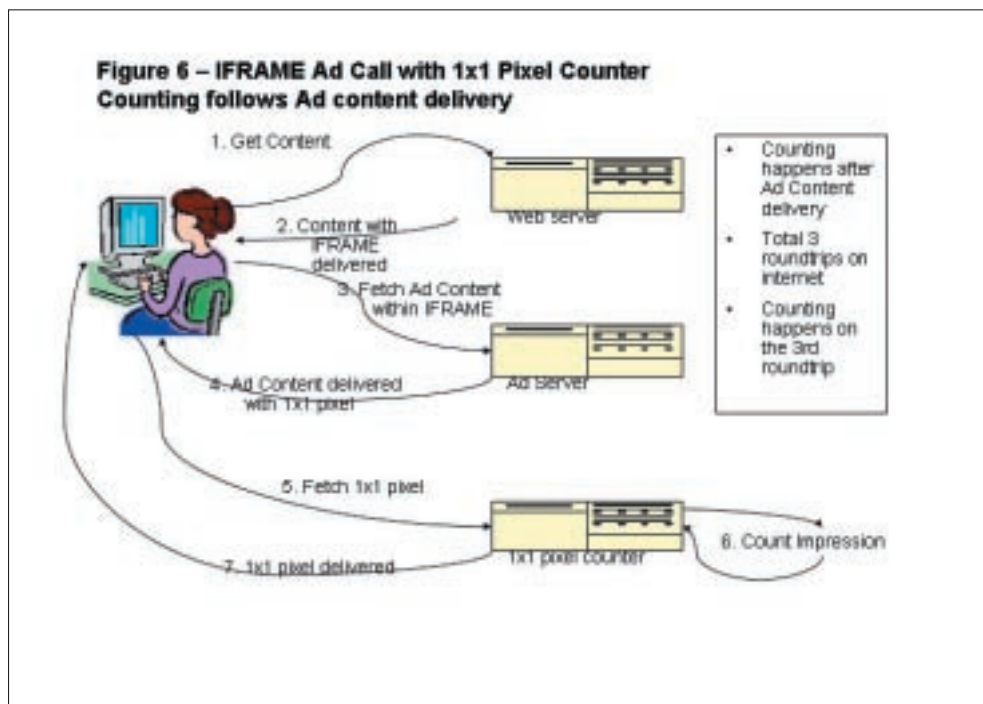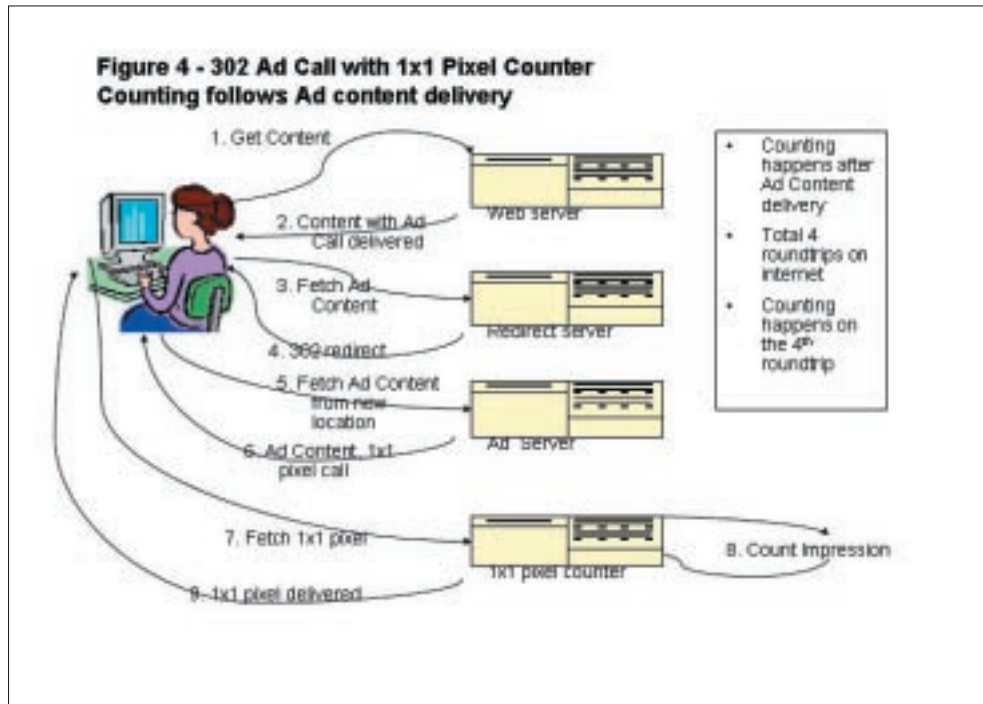**Interactive Advertising Bureau EU**

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APPENDIX A

Figures – Different but Valid Implementation Options for Ad-Impressions

Figure 1 - 1x1 pixel method
Counting follows Ad Content delivery

Figure 2 - 1x1 pixel, followed by 302
Counting follows Ad Content Delivery

Figure 3 - 302 Ad Call
Counting precedes Ad Content delivery

Figure 5 – IFRAME Ad Call
Counting precedes Ad content delivery

Figure 4 - 302 Ad Call with 1x1 Pixel Counter
Counting follows Ad content delivery

Figure 6 – IFRAME Ad Call with 1x1 Pixel Counter
Counting follows Ad content delivery

APPENDIX B

Brief Explanation of U.S. Associations Involved in this Project

Advertising Research Foundation (ARF)

Founded in 1936 by the Association of National Advertisers and the American Association of Advertising Agencies, the Advertising Research Foundation (ARF) is a nonprofit corporate-membership association which is today the preeminent professional organization in the field of advertising, marketing and media research. Its combined membership represents more than 400 advertisers, advertising agencies, research firms, media companies, educational institutions and international organizations.

The principal mission of the ARF is to improve the practice of advertising, marketing and media research in pursuit of more effective marketing and advertising communications.

American Association of Advertising Agencies (AAAA)

Founded in 1917, the American Association of Advertising Agencies (AAAA) is the national trade association representing the advertising agency business in the United States. Its membership produces approximately 75 percent of the total advertising volume placed by agencies nationwide. Although virtually all of the large, multi-national agencies are members of the AAAA, more than 60 percent of AAAA membership bills less than $10 million per year.

The AAAA is not a club. It is a management-oriented association that offers its members the broadest possible services, expertise and information regarding the advertising agency business. The average AAAA agency has been a member for more than 20 years.

Interactive Advertising Bureau (IAB)

The IAB is the only association dedicated to helping online, Interactive broadcasting, email, wireless and Interactive television media companies increase their revenues.

The quality of the IAB leadership, membership and industry initiatives, such as standards, research, advocacy and education, benefit the membership as well as the industry as a whole.

IAB Objectives

- To increase the share of advertising and marketing dollars that Interactive media captures in the marketplace
- To organize the industry to set standards and guidelines that make Interactive an easier medium for agencies and marketers to buy and capture value
- To prove and promote the effectiveness of Interactive advertising to advertisers, agencies, marketers & press
- To be the primary advocate for the Interactive marketing and advertising industry
- To expand the breadth and depth of IAB membership while increasing direct value to members.

Media Rating Council (MRC)

The Media Rating Council, Inc. (MRC) is an independent, non-profit organization guided and empowered by its members, authorized by Congressional action, to be the verifier of syndicated audience measurement of media in the U.S. The MRC Board grants Accreditation to research studies and ancillary services whose methodologies and disclosures meet the Minimum Standards for Media Rating Research. Accreditation decisions of the MRC Board are based on the scrutiny of annual, confidential, neutral MRC-designed third-party audits.

The MRC membership represents companies from all major media, advertising agencies, marketers and media-specific trade associations, excluding measurement services. The U.S. Media Industry recognizes the MRC to be the authoritative body for monitoring, critiquing and seeking continuous improvement in syndicated media research studies. MRC Accreditation, resulting from this demanding evaluation process, greatly enhances confidence the marketplace has in media research. In addition, the MRC membership actively pursues research issues they consider priorities in an effort to improve the quality of research in the marketplace.