

# Description of Methodology

Webcast Metrics Local

TRITON DIGITAL



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D I G I T A L

# Publication Information

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# Contents

- 1. Overview.....4
- 2. Introduction.....4
- 3. Data Collection .....5
  - 3.1. Listener Tracking Method ..... 5
- 4. General Invalid Traffic Filtration Processes .....6
  - 4.1. One Minute Rule ..... 6
  - 4.2. IAB/ABC International Spiders and Bots List ..... 6
  - 4.3. Internally-generated Traffic..... 7
  - 4.4. Activity Based Filtration ..... 7
  - 4.5. Gross Invalid Traffic Figures ..... 7
- 5. Data Transformation.....7
  - 5.1. Market Definitions ..... 8
  - 5.2. Metrics Definitions..... 8
- 6. Measurement Limitations.....9
  - 6.1. Domain-blocking Tools ..... 9
  - 6.2. Exclusion of Publisher/Station Data ..... 9
  - 6.3. Other Limitations ..... 9
- 7. Triton Digital General Data Policies.....10
  - 7.1. Webcast Metrics<sup>®</sup> Data Retention ..... 10
  - 7.2. Data Error Disclosure ..... 11
  - 7.3. Data Confidentiality ..... 11
  - 7.4. Notification ..... 11
  - 7.5. Hying/Failure..... 11
  - 7.6. Partner Qualification Controls ..... 11

# 1. Overview

This Description of Methodology (DOM) is a summary of the Internet audio streaming measurement processes employed, including a general description of our measurement methodology, filtration processes and reporting procedures as they relate to Webcast Metrics Local.

This document may be found here:

[www.tritondigital.com/media/default/rankers/triton-digital-methodology-WCML.pdf](http://www.tritondigital.com/media/default/rankers/triton-digital-methodology-WCML.pdf)

## 2. Introduction

Triton Digital performs “census based” Internet audio streaming traffic and audience measurement. No samples, surveys or panels are utilized in the collection, transformation or display processes and procedures described herein. In each case, Triton Digital obtains data on each stream including the station, individual stream start time, individual stream duration, and listener identifier. This methodology is based on all session activity recorded (subject to filtration procedures described in section 3).

Webcast Metrics<sup>®</sup> (WCM) is an online reporting interface in which the station publishers can obtain detailed reporting related to their streams, but cannot obtain reporting related to streams owned or operated by other companies. Webcast Metrics<sup>®</sup> can be used by station publishers to monitor audience data for any custom period they wish to review or compare.

Webcast Metrics is now available for subscribing clients on a local market basis with the service Webcast Metrics Local. The data is converted into audience metrics commonly used in the radio advertising industry and published as Webcast Metrics Local market reports.

Market based reporting metrics include; Weekly Cume, Time Spent Listening (TSL), Average Quarter Hour (AQH), AQH Rating, Cume Rating, Total Listening Hours (TLH), Average Time Spent Listening (ATSL), Average Active Sessions (AAS), and Session Starts (SS).

Collecting data directly from client applications, Webcast Metrics<sup>®</sup> uses registrant’s five digit zip code, year of birth and gender to determine listeners’ MSA location and demographics for audience report breakouts. Webcast Metrics and our Listener Tracking system does not collect any personally identifiable information.

## 3. Data Collection

WCML utilizes a single method for collecting the above data:

- Through client-side measurement, by collecting the data directly from the web based player or mobile device (referred to as the “listener tracking method, or LT”).

### 3.1. Listener Tracking Method

Because Listener Tracking performs “client-side” audience measurement via the listeners’ browsers or applications, it requires the integration of a tracking code in every ‘embedded media player’. This code communicates with the measurement servers during the streaming session. This method has also been referred to as the client-side tracking method, cloud based measurement method, the HTTP listener tracking methodology and the ping method.

Listener tracking can be implemented as a Flash or as a JavaScript solution. If the web page and player do not have Flash components, the JavaScript implementation must be used, but if either have Flash components, the Flash implementation is the preferred method.

In both types of implementation, the listener tracking functionality monitors and reports the initiation, continuation, pausing and resuming, and termination of the stream. Triton Digital utilizes a combination of third party cookies (GVID) and publisher supplied unique user ID (VID) to report a CUME figure based on unique cookies or VID. If VID is not provided, Triton falls back on IP plus User Agent. Upon initiation of the stream, an initial start event is sent to the measurement servers identifying the stream (e.g., Station ID) and any additional optional information the station includes in the event string. In the case of WCML, the LT system is provided with a five digit zipcode, gender and year of birth per listener. The tracking system then continues to send events every sixty seconds as long as the stream is active (referred to as a ping event). If the user pauses the stream, the ongoing event is stopped until the listener resumes the stream. In cases where the pause event was less than three minutes, the ongoing event is resumed and counted, otherwise, a new session is started (a new start event is sent). Finally, if the user ends the stream, the ongoing event is stopped, and if the user subsequently starts the stream again, a new session is started, regardless of the time between the end event and the new start event.

Effectively, as described above, there are two types of events; a new session start event (also referred to as a new listener event) and an ongoing event (also referred to as a ping event). In both the JavaScript and Flash implementation, each of these events includes a random number appended to the end of the URL string (a new random number is generated for each ping event) to reduce the chance of the event being cached by local, proxy or network cache, and therefore not reaching the measurement servers.

Triton Digital has also developed a direct measurement methodology that is designed for publishers utilizing embedded devices or custom applications that do not operate within a web browser environment. In these situations, the above described code integrations cannot be used, but using this

direct measurement method (the “advanced method”), the client can configure their device or application to make these new listener and ping events. In response to the initial new listener event, the listener tracking system will return two parameters for the ping event: the interval at which the player should send the ping event, and a GUID, which is an encoded string comprised of the station ID, date and time stamp and a random number. Thus, this GUID is expected to be unique for each stream; however, the GUID will be the same for each ping event sent during a session.

## 4. General Invalid Traffic Filtration Processes

Triton Digital employs several techniques in an attempt to identify and filter (exclude) invalid activity, including but not limited to known and suspected non-human activity and suspected invalid human activity. 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 activity can be identified and excluded from report results. Our techniques are described below:

### 4.1. One Minute Rule

Due to the nature of streaming activity, and the general behavior of robotic/spider related traffic, we have implemented a process whereby streaming sessions with a duration of less than one minute are considered invalid and are removed from all measurement collected data. This rule reduces most of the noise from extremely short sessions, robotic activities and initial connectivity issues without dropping valuable audience. Robots/spiders typically connect to a site and “walk” the valid links of the site. Triton Digital has not detected ANY robotic/spider activity that has the capability to consume a “stream” for longer than one minute.

This rule applies to both data collection methods. When log files are provided by the CDN, sessions with a duration of less than one minute are not inserted in the database table used by Webcast Metrics<sup>®</sup>. When data collection is performed through listener tracking method, a session is considered active upon the first ping event, which occurs after 60 seconds.

### 4.2. IAB/ABC International Spiders and Bots List

In addition to the One Minute Rule, Triton Digital has implemented filtering based on the IAB provided Spiders and Bots List<sup>1</sup> in order to exclude site-traffic associated with robotic activity from the collected data. For example, this filtering process allows us to exclude http requests from search engines spiders

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<sup>1</sup> For more information on this list, please refer to: <http://www.iab.net/sites/spiders/login.php>

(Google, Bing, Yahoo, etc.). To do so, an exclusion list (Robot.txt) was configured on all collection servers and is configured to disallow all.

In certain logfile implementations Triton Digital does not have the ability to filter for user agents. As such, these sessions are not filtered out of the reported metrics data.

### 4.3. Internally-generated Traffic

Based on IP address, Triton Digital removes all internally generated stream session data from measurement collected data. Triton Digital's staff uses a virtual private network (VPN) which is a computer network that uses the Internet to provide offices users with secure access for internal traffic. This VPN IP address is blocked from collection/reporting functions. This rule applies to both data collection methods and is performed at the database level. Triton Digital also removes internal traffic generated by participating stations/publishers.

### 4.4. Activity Based Filtration

Triton Digital also employs activity filters to identify anomalies. All suspicious streaming activity is documented in a monthly report and the publisher is immediately notified. Triton Digital works with publishers and CDNs to investigate and solve the issue.

### 4.5. Gross Invalid Traffic Figures

An analysis month over month of Triton Digital's gross versus filtered traffic shows that network TLH is reduced on average by .16% and AS by .08%.

## 5. Data Transformation

Streaming sessions less than one minute in length are removed from processing. Based on an analysis, Triton Digital has determined that approximately 20% of sessions were less than sixty seconds in length, and were therefore excluded from processing. Triton Digital employs a de-duping process that ensures that duplicate records are rejected and not utilized for reporting. When data collection is performed through listener tracking method, any redundant sessions are stripped out before being inserted in the final database table used by Webcast Metrics Local<sup>®</sup>. The WCML period reporting is based on weekly calculations.

## 5.1. Market Definitions

For a detailed list of Market definitions by zip code, please refer to the following page:

[http://wcmldocs.tritondigital.com/triton\\_areas\\_definitions.html](http://wcmldocs.tritondigital.com/triton_areas_definitions.html)

## 5.2. Metrics Definitions

Once the data is processed and aggregated, Webcast Metrics Local<sup>®</sup> is updated and stations may begin to review reports related to their streams. Webcast Metrics Local<sup>®</sup> is a report generation application, accessed via a web-based user interface, which includes reporting on the following metrics:

### ***Average Quarter Hour Listeners (AQH)***

The average number of persons listening to a particular station for at least five minutes during a 15-minute period.

### ***Average Quarter Hour Rating***

AQH listeners within a specified MSA, demographic and daypart, expressed as a percentage of the specified MSA demographic population.

$$[\text{AQH Listeners} / \text{MSA Population}] * 100 = \text{AQH Rating\%}$$

### ***CUME***

Unique Listeners within the specified MSA, demographic and day-part expressed as a percentage of the MSA demographic population.

$$[\text{CUME} / \text{MSA Population}] * 100 = \text{CUME Rating\%}$$

### ***Time Spent Listening (TSL)***

Calculated as Total Listening Hours with the specified MSA, demographic and day-part divided by the number of unique listeners within the specified MSA, demographic and day-part.

$$[\text{TLH} / \text{CUME}] = \text{TSL}$$

## 6. Measurement Limitations

### 6.1. Domain-blocking Tools

- With certain browsers, software or tools, users have the ability to block content (including new listening and ping events) based on the domain from which the content is being requested. Blocking techniques or software that prevent communication with the Triton Digital measurement servers would prevent both the communication of the new session start event and ongoing ping events, although the user would still be listening to the station/publisher stream as that originates from a different domain, resulting in an undercount of the streaming event, in this situation, for stations/publishers utilizing the listener tracking method.
- Stations that operate through a proxy or that utilize the log file method will not be affected as the communication of streaming events takes place between the CDN and the measurement server, not the browser/player and the measurement server.
- These situations are not unique to Triton Digital. Additionally, these situations are difficult to quantify without special studies and analyses being performed.

### 6.2. Exclusion of Publisher/Station Data

- Participating publisher internal traffic is identified via publisher supplied IP address and excluded from reported data.

### 6.3. Other Limitations

- In addition to the measurement limitations noted above, certain log entries may be corrupted or otherwise unusable in the accumulation of streaming data.
- A listener may mute their stream as a function of the player application or a function of the operating system. Triton Digital is not able to capture this event in all instances.
- LT methods have the ability to detect and account for pause - however, this functionality implementation is not required. As such, there will be instances where pause duration is included in total listening time.
- In some cases, audio players require JavaScript to be enabled. If JavaScript is disabled, the player itself will not execute, resulting in no call made to Triton Digital's servers. Triton Digital is not able to capture events in this instance therefore the session would not be counted.
- Similar to JavaScript, some audio players also require Flash to be enabled. If Flash is disabled, the player itself will not execute, resulting in no call made to Triton Digital's servers. Triton Digital is not able to capture events in this instance therefore the session would not be counted.
- Data are considered preliminary for a period of seven days. We do not include all stations or networks in our ranking, but only those who subscribe to our Webcast Metrics Local<sup>®</sup> service.

- In the case of LT based data, data are collected directly from the publisher’s application. Triton Digital audits publisher applications annually. Changes to applications between audit periods may affect the quality of the data collected.
- Triton Digital implements standard cache busting techniques by affixing a randomly generated string to all transactions. While this eliminates most caching, it is not 100% reliable.
- For publishers that operate on the CDN log file methodology and some LT methodologies, Triton Digital does not currently have the ability to determine if a player is buffering pre- or mid-stream as the communication of streaming events takes place between the CDN and the measurement server and not the browser/player and the measurement server. Therefore, any time incurred as a result of buffering would ultimately be included within WCML reporting. Additionally, measurement of these sessions could also be limited to a buffering threshold defined by the publisher.
- Webcast Metrics© does not discriminate between ad free content vs subscription content that publishers make available. It is simply a measure of all listening within the specified day parts and geography for the specified calendar month.
- Certain combinations of OTT devices, and/or OTT publisher data may not be available for measurement. Logfile based publisher data typically contains OTT measurement data while LT based publisher data might not contain measurement data.
- Measurement of OTT devices for the Listener Tracking system requires the OEM to instrument the device, while CDN streaming logfiles typically capture listening data without modification.
- The 24-hour duration rule is a “maximum allowable” filter, as certain publishers may implement duration limits that fall under the maximum of 24 hours.
- Anyone who uses the information contained in our ranker agrees that Triton Digital will not be liable for any direct or indirect loss arising from the use of such information.

## 7. Triton Digital General Data Policies

### 7.1. Webcast Metrics© Data Retention

- WCML data aggregate records are maintained on a rolling thirteen month schedule.
- Raw log files are maintained for a rolling thirty-two days.

WCML data is available online for all reporting periods (including the current month). Current month data is available 15 days after the close of the period. The near-line archive database maintains data starting in 2008, and is updated nightly. Data prior to 2008 is stored as offline backups.

## 7.2. Data Error Disclosure

- Triton Digital will reissue data whenever an error or omission is found that impacts any reported metric, for any station, by more than 5%, or would lead to a change in the ranking of impacted station(s).
- Triton Digital will utilize its Constant Contact database and communicate the above error or omission via email.

## 7.3. Data Confidentiality

- Triton Digital will not share data across ownership groups without prior written permission. Proof of written permission shall be maintained at the corporate office.

## 7.4. Notification

- Where applicable, notification of error or omission will be distributed via the Constant Contact database (email). In regards to Ranker data, a notification will also be placed on the WCML dashboard directing users to the detail of the error or omission.
- As it pertains to any future changes in methodology that may affect the overall measurement and reporting of reported metrics (i.e. TLH, Cume, ATSL, SS, AAS and AS), client will be notified via the Constant Contact database (email).

## 7.5. Hying/Failure

- Where applicable, Triton Digital shall footnote in the published ranker situations where there are known technical difficulties or hying actions (i.e., power failure lasting multiple days, a natural disaster, stations offering cash incentives for listening for a certain period of time, etc.).

## 7.6. Partner Qualification Controls

- In order to ensure that Triton Digital is only dealing with legitimate entities as business partners, we require they fill out a credit application, sign a Master Services Agreement and WCM-specific Terms & Conditions document. The credit application allows us to verify their legitimacy as a sound entity.
- During the implementation process, Triton Digital conducts publisher audits on all new WCM clients in order to ensure CDNs are not manipulating data and we are reporting valid metrics.
- Triton Digital has relationships with a number of business partners, namely geolocation vendors and CDNs, that are considered material to our measurement services.