Description of Methodology

Podcast Metrics

BY TRITON DIGITAL®



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https://support.tritondigital.com/

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1. Scope

This Description of Methodology (DOM) is a summary of the podcast measurement processes conducted, including a general description of our measurement methodology, filtration processes, and reporting procedures.

1.1. Products and Services Included

Triton Digital's podcast measurement product and services included in the scope of this DOM, are:

- Podcast Metrics: Podcast Metrics (PCM) service measures and reports downloads, listeners and
 downloaded hours for on-demand audio, including but not limited to, the podcast delivery format
 (RSS feeds). Podcast Metrics complies with the latest IAB Podcast Technical Measurement
 Guidelines, to ensure standardization and reliability. Metrics and trends are published on a per
 country basis and are based on a 4-week reporting period, available per network, program, podcast,
 episode, geography, device, and distributor.
- Podcast Metrics Public Reports: Triton Digital's publicly available reports are produced on a per
 country basis and represent only the download activity in that country. Data is collected
 continuously and reported as a four-week average. The entities are ranked per average weekly
 downloads (Monday through Sunday), following the IABv2.1 Podcast Technical Measurement
 Guidelines. Podcast Metrics reports are available on Triton Digital's website.
- Tap: The Triton Advertising Platform (Tap) provides digital audio publishers and podcast networks
 with the tools necessary to dynamically insert targeted audio ads directly into live and on-demand
 audio content via server-side ad insertion. Tap is used for direct-sold campaign trafficking, delivery,
 and reporting. The enhanced targeting capabilities available within Tap enable audio publishers and
 networks to increase the value of their inventory as well as the return on investment for their
 advertisers.
- Yield-Op: Yield-Op is a built-for-audio supply-side platform (SSP) that enables broadcasters, podcasters, and music streaming services to connect and manage their programmatic demand sources efficiently. Yield-Op enables publishers and networks to manage access, regulate pricing, and establish ad quality settings in Triton's audio marketplace, as well as configure both open and private marketplace deals with specific buyers, brands or sales houses.

1.2. Metrics Definitions

Reported metric	Definition				
Downloads	Unique file requests that were downloaded. This includes complete file downloads, progressive downloads, as well as partial downloads in accordance with the <i>IAB Podcast Measurement Technical Guidelines v2.1</i> filtering rules (e.g., spiders and bots, data centers, one-minute of content minimum download, etc.). "Unique" filters multiple requests from the same IP address, user agent, episode, and date.				
Downloads (gross)	Non-unique file requests that were downloaded. This includes complete file downloads, progressive downloads as well as partial downloads, and is not subject to filtering rules as defined in the <i>IAB Podcast Measurement Technical Guidelines v2.1</i> . This metric should not be used for planning or advertising purposes, as trends may vary, and spikes can occur.				
Listeners	Each listener is a single user who downloads content for either immediate or delayed consumption. Listeners are identified by a combination of IP address and user agent in accordance with the IAB filtering rules described in the IAB Podcast Measurement Technical Guidelines v2.1.				
Downloaded Hours	The total time (in hours) of audio content that was downloaded, as a sum of all the valid Downloads data, in accordance with the IAB filtering rules described in the IAB Podcast Measurement Technical Guidelines v2.1.				
Impressions	Number of times an ad was delivered to users, in accordance with the IAB filtering rules described in the IAB Podcast Measurement Technical Guidelines v2.1 *.				

^{*}The Downloads, Impressions, and Listeners metrics are within the scope of the IAB certification for podcast measurement, while the Download (gross) and Downloaded Hours metrics, which are available in the Podcast Metrics web interface, are not within scope.

1.3. Metrics Scope

Reported Metric	Podcast Metrics	Tap Podcast	Australia Podcast Report	IAB Scope
Downloads	٧		٧	٧
Downloads (gross)	٧			
Listeners	٧			٧
Downloaded Hours	٧			
Impressions		٧		٧

1.4. Products and Services Not in Scope of this DOM

Triton Digital provides a variety of on-demand and podcast products and services that are not currently included in the scope of this Podcast Measurement Description of Methodology:

 Omny Studio: The industry's most intuitive and feature-rich podcast Content Management System (CMS) that provides networks with a wide variety of tools to support their podcast strategy, including podcast hosting and broadcast capture, sophisticated campaign management, visual editing, automated audio transcriptions, a content delivery network (CDN) powered publishing and social sharing, and detailed reporting with advanced analytics.

Certain processes or technologies are also outside of the control of Triton Digital's collection, aggregation, and reporting of the in-scope Services, including:

Third-party or publisher-developed media player or application solutions to listen to podcast and ondemand audio are outside the control of Triton Digital.

CDN enrichment or filtering procedures: Publishers or networks using third-party CDNs or CMS platforms may perform geo-enrichment or filtration procedures to remove suspect or unrelated events prior to submission to Triton Digital for Podcast Metrics measurement. These filtration procedures are outside the control of Triton Digital. For example, the CDN may enrich with geo location or remove log lines related to video or web file delivery.

2. Measurement Methodology

Triton Digital performs census-based, digital, on-demand and podcast audio audience measurement. No samples, surveys or panels are used in the collection, transformation, or display processes and procedures described herein. In each case, Triton Digital obtains data on each file request, including the content, source, timing and bytes requested for each download.

Triton Digital uses a single method for collecting data for Podcast Metrics services. Through raw log files or events of on-demand audio activity collected daily from either the Content Delivery Network (CDN) or the Content Management System (CMS) hosting the network's podcast and on-demand audio content.

2.1. CDN/CMS Access or Session Logs

The CDN/CMS log file method involves obtaining log files or event log information from the podcast file hosting system. The content delivery network may be maintained by Triton Digital through the Triton Digital Streaming services, a third-party CDN such as Akamai or Amazon, or a podcast hosting platform. When a publisher or network delivers on-demand audio, it is delivered via a content delivery network or a podcast hosting platform, which then distributes the files via a network of geographically disbursed delivery points (servers), and logs the transactional activity. These can be recorded in either log files, databases or data warehouse systems. Individual log events are made available by the CDN or CMS to Triton Digital. It contains the details of all listener file access for a given day. With respect to the scope of this document, the key data points within the log files are IP address (or hashed version), user agent, date/time, transferred bytes, request method, request bytes and the URL or ID of the file.

Networks approve and arrange for the release of streaming log files directly and automatically from their CDN of choice to Triton Digital by SFTP, or by S3 bucket in a predetermined format (if the network is not utilizing Triton Digital's Podcasting service). In this case, log files are generated and controlled by the CDN or CMS, and not the networks themselves. Triton Digital's quality control procedures apply to every client, regardless of how the log files are delivered.

2.2. Covered Devices and Platforms

Our Podcast Metrics census-based log file methodology supports measurement across all devices and distribution platforms, so long as Triton receives valid server or client access or session logs. This includes, but is not limited to, web browsers and apps, smart phones and tablets, smart speakers, and other devices across a wide variety of operating systems and brands capable of downloading ondemand audio files.

2.3. Association of Log Data to Podcasts

Podcast Metrics associates each file download to a specific episode title within a podcast. Triton uses either episodes ID or URL to match log data with episode information within a set RSS feed or data (csv) file provided by the network.

2.4. Measurement Limitations

2.4.1. HLS and MPEG DASH

Triton Digital's Podcast Metrics doesn't support raw access log information from HLS or MPEG DASH streaming of podcast / on-demand content. To be accepted, HLS or MPEG DASH streams shall report session logs instead of file access logs inclusive of duration and episode information.

2.4.2. Caching from Different Platforms

Some podcast listening platforms have the ability to cache podcast episode files in their own delivery network and as a result, may not provide server logs. A lack of server logs can negatively impact the accuracy of measurement as well as the listening experience as it relates to dynamically inserted advertisements. In many cases, networks can contact distribution platforms and ask to avoid caching.

3. General Invalid Traffic Filtration Procedures

Triton Digital employs techniques based on identifiers, activity, and patterns per the data in the log files, in an attempt to identify and filter (exclude) invalid activity. Invalid activity includes, but is not limited to, known and suspected non-human activity and suspected invalid human activity. However, user identification and intent cannot always be detected or discerned by the network, advertiser, or their respective agents, and it is unlikely that all invalid activity can be identified and excluded from report results. Details on our techniques are described below:

3.1. One Minute Rule

Due to the nature of podcasting activity, and the general behavior of robotic/spider related traffic, Triton Digital uses a process whereby downloaded content with a duration of less than one minute is considered invalid and is removed from all collected data, unless the episode/file length is also under a minute, in which case the full file shall be downloaded. This rule reduces noise from extremely short sessions, robotic activities, and initial connectivity issues.

3.2. Specific Identification of Non-Human Activity

Triton Digital uses the IAB/ABCe International Spiders and Bots Blacklist¹ 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 engine spiders including Google, Bing, Yahoo, and more. This <u>list</u> is maintained by the Interactive Advertising Bureau (IAB) and updated monthly.

Additional lists are utilized and updated by Triton Digital to exclude invalid or include known-valid user agents, if those agents are not reflected within the IAB/ABCe Internal Spiders & Robots List.

Triton Digital also follows the IAB's filtering guidance regarding Apple's watchOS downloads, as the majority of watchOS downloads are automated duplicates of iPhone downloads and are not user-initiated. Specifically, we filter out:

- User Agents that begin with atc/ and include watchOS (for example: atc/1.0 watchOS)
- User Agents that contain (null)/(null) watchOS*

¹ For more information, refer to: https://www.iab.com/guidelines/iab-abc-international-spiders-bots-list/

3.3. Data Center Exclusion

Triton Digital uses the TAG Data Center IP address list in order to exclude industry-identified non-human data center traffic. This list is maintained by the Trustworthy Accountability Group (TAG) and updated monthly.

3.4. Bad or Unidentified Requests

Triton Digital only accepts valid file transfer requests such as GET with 200 and 206 error codes, with a valid byte range. Requests to files that can't be identified as part of a podcast/program will not be credited to any episode, podcast or program.

3.5. Duplication of Data

All duplicated data is removed from the dataset used to produce the final metrics.

3.6. Other Activity-Based Filtration

Triton may flag traffic as invalid based on abnormal or suspicious traffic patterns as determined by activity-based filtration rules. In cases where suspicious traffic has been removed, Triton may adjust the reporting period and corresponding weekly averages.

4. Data Reporting

4.1. Calculation Granularity

All time-based calculations are based in whole seconds and are then expressed in hours or minutes.

4.2. Reporting Periods and Formats

Podcast Metrics reports data on a per day basis using the UTC time zone. The time range can be customized to provide metrics aggregated for a longer period of time, and reports can be viewed in a web application or exported in an Excel format.

The Podcast Metrics Reports list average weekly downloads over a four-week period, averaging and rounding the total downloads of each of the four weeks. The reports are available on the Triton Digital website at https://www.tritondigital.com/resources/podcast-reports.

4.3. Time Zone Normalization and Geolocation Procedures

Podcast Metrics data is reported based on the UTC Time Zone, and the digital audio measurement data is either collected or converted to UTC time.

Geo location is done either at Triton by leveraging a third-party service, using IP to city/region/country localization, or provided by the CDN/CMS as part of the log files.

4.4. Hyping/Failure

Where applicable, Triton Digital shall footnote in published Global reports where there are known technical difficulties or hyping actions (i.e. power failure lasting multiple days, a natural disaster, publishers or networks offering cash incentives for listening for a certain period of time, etc.).

4.5. Quality Control

Potential clients undergo an initial business partner qualification process prior to gaining access to Triton Digital's services and reported metrics.

Triton Digital partners with geolocation vendors, CDNs, and industry organizations that provide invalid traffic filtration lists that are critical to our measurement services.

Furthermore, daily, weekly and monthly automated and manual data reviews are conducted to ensure the accuracy and completeness of the reported data.

4.6. Reissued Data and Notifications

Triton Digital will reissue a report whenever an error or omission is discovered that affects any reported metric by more than 5%.

If such change affects the public report(s), Triton Digital will communicate the error or modification to clients via email or the Triton Digital website.

Clients will be notified via email should there be any changes in methodology that may affect the overall measurement of the reported metrics.

4.7. Data Retention

As it relates to the in-scope services of this DOM, Triton Digital retains the detailed records of the sessions and the aggregated reports for a minimum of 13 months.

5. Triton Digital Podcast Reports

Triton Digital's Podcast Reports list the top podcasts in specified regions, as measured by Triton's Podcast Metrics measurement service. Podcast Reports are based on a four-week reporting period. The entities listed are ranked by Average Weekly Downloads (Monday to Sunday) in accordance with the IAB Tech Lab's Podcast Technical Measurement Guidelines. Reported publishers must opt-in to the public release of their metrics.

5.1. Rules for Inclusion and Handling of Data Issues

Triton Digital's country and regional public-facing Podcast Reports serve as an important vehicle to bring attention to the podcast industry, to demonstrate its growth, and to assist advertising sales. To provide these insights, it is important to define what is eligible to be included in the public reports, to collect data on a timely basis, and to create guidelines for how to handle atypical circumstances.

The following processes, rules, and guidelines have been created to support these goals. We ask that all clients and their hosting providers support a consistent approach to data collection methods and timelines. This document intends to provide full transparency to the processes that have been put in effect; however, we recognize that the podcast landscape is changing rapidly, and that unforeseen situations may need to be reviewed on a case-by-case basis.

5.1.1. What is a podcast?

The IAB supports the following definition of a podcast:

"A podcast is an episodic series of digital audio files which a user can download and listen to. It is often available for subscription, so that new episodes are automatically downloaded via web syndication to the user's own local computer, mobile application, or portable media player."

Triton Digital supports that definition. However, we also acknowledge that the ways to distribute and consume podcasts have expanded. For example, podcast content does not always have to be available for subscription, it can be streamed as well as downloaded, and it can be distributed through any variety of devices and platforms (mobile apps, web players, smart speakers, etc.).

To be included in the public-facing Triton Digital Podcast Reports, podcasts should fit within the following guidelines:

- The podcast feed must include multiple episodes over the course of a year.
- The episodes shall normally adhere to at least one of the following models:
 - o Be part of a scripted or unscripted original podcast show. For example:
 - "Revisionist History" from Radio.com/Cadence13

- "Unsolved Murders: True Crime Stories" from Stitcher/Midroll
- "Business Wars" from Wondery
- Be grouped around a common Radio Program/Show. For example:
 - "The Mark Levin Show" from Cumulus/Westwood One
 - "Kevin in the Morning with Allie & Jensen" from KROQ-FM Los Angeles / Radio.com
- Be grouped around a common news coverage or talk show, released periodically, including short duration news briefings. For example:
 - "Morning Joe" from NBC News / Wondery
 - "NPR News Now" from NPR

The following examples would **not** fit our definition of podcast:

- A group of unrelated audio clips, or a group of audio clips from a web page, that do not follow a theme or a periodic release. For example, a newspaper that includes unrelated audio clips on their web site or application and would like all of them to be measured in aggregate as a single podcast.
- Audiobooks.

5.1.2. Automatic Plays or Downloads of Content

- Auto-play and pre-cached audio files on a website: For measurement, it is requested that publishers do not have podcast content that automatically plays upon visiting a website, and do not pre-cache content. This helps ensure that Podcast Metrics can report downloads *intended* by the listener which are greater than one minute in length. This is consistent with the guidance in the IAB Tech Lab Podcast Measurement V2.1 Guidelines. In cases where auto-play of content occurs that does not reflect a user's intent to download/listen, the publisher/network client should notify Triton Digital of such practices whenever possible.
- Automatically downloading of a back-catalog library of podcast content: Podcasts that include
 automatic downloading of a library of past podcast content, without a user's intent to download
 that content, should not be included in measurement. In cases where auto-downloading is known to
 be in effect, the publisher/network should notify Triton Digital of such practices.

5.1.3. Timing to Provide Data

- Existing publishers: The deadline for existing publishers to provide current reporting period data is four business days after the download has occurred. If missed, then the podcast may be excluded from being listed in the public Podcast Report for that period.
- **New publishers:** For new publisher clients, measurement will start on the first day of activation. This is likely to result in partial data for the first reporting period. It is the publisher's choice to be included in that period's report, with only a partial period of download data available for reporting, or to wait to be included in the next (full) reporting period.

• Changes to content hosting provider: Advanced notice should be provided to Triton Digital, preferably at least 30 days in advance, of the transition to a new hosting provider. Changes to a hosting provider usually results in downloads through two hosting companies during the reporting period of the transition. Downloads for the first portion of the reporting period come from the old hosting provider, and the remainder of the reporting period come from the new hosting provider. Triton Digital will do its best to accommodate these changes by manually adding the downloads together, if no other data issues are caused by this migration.

5.1.4. Data Issues

- Large spikes in downloads and other unusual traffic: Triton Digital retains the right to review any
 unusual and/or suspicious download numbers. In some cases, circumstances may require the
 exclusion of certain data, or the removal of an entire podcast from the public podcast reports. This
 can occur on a temporary basis until the review has been completed. The traffic could also be
 removed on a permanent basis if Triton Digital finds that the audio content should not be eligible for
 inclusion. In such cases, an explanation will be provided to the participating network/publisher
 client.
- Missing data or missing podcasts: In some cases, the raw podcast logs Triton Digital receives have certain data omitted inadvertently. Triton Digital works with hosting providers and third-party CDNs to provide training, which helps to identify and/or prevent potential data issues in advance. When issues do arise, they must be fixed within two weeks after the end of the reporting period. If the issue cannot be fixed within that time period, data will either be reported without adjustment and with a footnote explaining the issue, or excluded from reporting in the case of larger data issues.
- Re-syncing of feeds or re-publishing or episodes: Some cases, such as changing hosting providers or
 changing the audio URL of a podcast feed, will cause apps to automatically download old episodes of
 a podcast. This results in inflated download numbers. These situations should be avoided if possible.
 However, if they do occur, notification of such an issue should be provided to Triton Digital. In such
 cases, Triton Digital will attempt to remove the download data in question.

The reporting dates schedule for Triton Digital Podcast Reports can be found on the Triton Digital web site, on the Podcast Reports page (under "Resources").