SMPTE EG 2112-2:2018

SMPTE ENGINEERING GUIDELINE

Audience Measurement Ecosystem

Table of Contents **Page**

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Foreword

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Intellectual Property

At the time of publication no notice had been received by SMPTE claiming patent rights essential to the implementation of this Engineering Document. However, attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. SMPTE shall not be held responsible for identifying any or all such patent rights.

Introduction

This section is entirely informative and does not form an integral part of this Engineering Document.

This document is intended to provide guidance to implementers of SMPTE ST 2112-10, which standardizes the method of binding OBID identifiers to content, and SMPTE ST 2112-20, which standardizes the method of binding OBID-TLC identifiers.

There are many potential use cases that OBID and OBID-TLC can enable. This document only addresses audience measurement for television.

1 Scope

This Engineering Guideline provides background concerning the Television Audience Measurement ecosystem as a whole, to which the OBID and OBID-TLC watermarks apply. While the principles are broadly applicable, the information provided herein is based largely on US practice.

2 Conformance Notation

This Engineering Guideline is purely informative and meant to provide tutorial information to the industry. It does not impose Conformance Requirements and avoids the use of Conformance Notation.

Engineering Guidelines frequently provide tutorial information about a Standard or Recommended Practice and when this is the case, the user should rely on the Standards and Recommended Practices referenced for interoperability information.

3 Terms and Definitions

For the purposes of this document, the following terms and definitions apply.

3.1 ACR

Automatic Content Recognition

3.2 Ad-ID

Advertising Digital Identification

3.3 CATI

Computer Assisted Telephone Interview

3.4 CMS

Collection Management System

3.5 EIDR

Entertainment Identifier Registry

3.6 HH

household

3.7 M&E

media and entertainment

3.8 MRC

Media Rating Council

3.9 MVPD

multichannel video program distributor

Note: Examples of MVPDs are cable TV, satellite TV and broadband telco systems

3.10 RPD

return path data

3.11 SVOD

Subscription Video On Demand

3.12 VOD

Video On Demand

4 The Problem OBID Is Intended To Solve

Content creators and distributors need an effective way of reliably binding content identifiers to video/audio content that will robustly transit an end-to-end media ecosystem. Unique content identifiers, such as EIDR, Ad-ID – and others – have been important developments. Today, within the supply chain, M&E entities “bind” the identifiers in file containers, to data streams in a file container or to the structural metadata of the video/audio stream itself. These types of bindings can be destroyed in video/audio processing and delivery systems along the media production, distribution and measurement supply-chain.

An open standard for essence-based video/audio binding can enable a wide range of new capabilities. Most importantly it will enable increased speed, transparency and accountability in video content and advertising measurement across a wide range of delivery systems and devices. Additional benefits are improved media workflow automation within and between M&E entities; fewer barriers to deploying cross-platform dynamic ad insertion; enablement of new anti-piracy tools and methods, broader digital locker adoption; more complete long-tail content monetization; improved accuracy in automatic content recognition and detection; better second-screen integration and improved multi-screen content discovery… the list goes on.

5 The Role of The OBID-TLC Mark

During the course of developing the OBID mark, it became apparent that, although a critical piece of the puzzle, the OBID mark alone could not provide a full solution to the need for an open means of enabling audience measurement.

At the suggestion of the Media Rating Council (MRC), the OBID-TLC mark was added to the scope of the overall OBID project. The OBID-TLC Distribution Mark contains up to four Distribution IDs, along with accompanying timestamps, helping to identify those in the content distribution chain who were involved in getting a particular piece of content to the consumer.

6 The Audience Measurement Ecosystem

6.1 Overview of Audience Measurement

Before describing the different methodologies currently in use, or in development, it's useful to point out that audience measurement differs from just tracking the volume of ***usage*** of a piece of content or an ad, but has the additional goal of attributing an audience of ***users*** to that usage behavior, whether this is demographic descriptors (such as age and gender) or even purchasing or other behavioral or attitudinal data.

Note that it is ideal if data for users and usage are both at an individual level measured in the same manner, but some forms of data are only available at a household or machine level. That is why sometimes "hybrid" combinations of data are used that employ a combination of methods, even including data modeling. All audience measurement uses some combination of methodologies to arrive at these two measurements: usage and users.

Audience measurement is key to attribute audience to networks and shows and to calculate ratings, which reflect the projected number of people in a geographic area, or nationally, who are watching a program or ad. This currency is vital for advertisers and agencies to build advertising campaigns and reach targeted audiences with their marketing messages. Additionally, audience measurement data are used by programmers (MVPDs, networks, affiliates, etc.) to understand usage of their content. One other important aspect to audience measurement is that it needs to fully represent all individuals who consume the relevant media in the country. This means that the methodology can't bias one device or delivery platform or demographic group in the population more than another.

Currently, there are two types of audience measurement methodologies for which it would be useful to detect the presence of Open IDs. These methods are census and panel.

6.1.1 Census methods (typically using electronic detection) that track the volume of usage

TV viewing is measured through set-top boxes (or through Switched Digital Video networks) by capturing a clickstream of all time-based tuning to particular channels and matching the time stamps with a network's log file data (provided directly by network clients or else provided to vendors who license the data to measurement providers).

This method captures all tuning events associated with a particular set-top box, but might not capture all TVs in the HH (if any are not connected to STBs) and also can't always tell when a TV set is on or off, since it just measures the STB. Most importantly, it doesn't measure whether or not there is a viewer or multiple viewers in front of a TV set. This measurement is important since it gives a complete volumetric measurement of tuning events (also called "usage") for the particular device, but is only representative of the devices that are being measured, and might not be nationally projectable.

Additionally, a clickstream census of all TV tuning can be detected in content-aware Smart TVs that have embedded video fingerprinting (ACR) technology. This technology requires matching video fingerprint signatures to a reference library of all TV channels in a particular market or pay TV system, and also comparing to each channel's as-run logs. This system can verify if a TV set is on or off, but can't determine if there is no viewer, a single viewer or multiple viewers in front of the TV set. Again, this gives a full measure of the volume of usage for this TV, but might not be representative or nationally projectable to the universe of all TV households in a country. And it is a measure of usage, but the user identity isn't always known.

Detection of Open ID content identifiers by these "census" devices (e.g. in set top form or Smart TVs), would enable faster and more accurate identification of content, and wouldn't require the matching of tuning events with as-run logs in order to determine the content. However the channel identification will be needed to credit the source of the tuning.

6.1.2 Panel methods (typically using acoustic detection)

Viewing today can be measured among panelists in TV measurement panels through the use of proprietary watermarks or codes that are embedded into content (and potentially into ads) just prior to distribution, and which can be detected by hardware or software meters placed near a panelist's TV set (for instance, set meters or code readers) or in a portable device carried by a panelist or potentially in an "always-on" watermark detection app carried in a smartphone. Since these panels measure people or "users" or "viewers," they are able to assign audience characteristics (such as age and gender) to the tuning events ("the usage data"). They currently also rely on matching back to program logs provided by networks and/or others in order to verify content and ad identification.

Panelists are people who volunteer to have their video viewing habits measured, and to that end accept the use of a meter to identify and log all programs they watch. A meter is a piece of hardware (or software) provided by the audience measurement company. Until recently the meter was merely a hardware box connected to the TV set, which was the only way to watch TV.

Currently the proprietary watermarks in the U.S. contain a time stamp and a source code that identifies the station within a particular cable system or in a particular market for OTA viewing. These time stamps and source codes are matched to a network's program logs for content identification, as well as to provide credit to the source of the viewing.

Additionally, there currently are panels operating in the U.S. by companies that measure TV usage and users via apps on mobile devices that use audio ACR technology to identify content. As mentioned above in the example of video ACR in Smart TVs, ACR technology requires the use of a large and expensive reference database of all programs or stations that are under measurement in order to make a correct match of fingerprints for identification.

Open ID content identifiers are expected to be able to be detected by the range of detection devices or meters outlined above. Additionally, the current environment for TV audience measurement has changed into a cross-platform measurement challenge as media companies and advertising buyers both need to follow the new viewing patterns for video that is viewed on mobile devices and connected TVs or connected TV devices. This is why the audience measurement industry is currently looking for methods to measure personal media use for individuals passively and across all platforms and devices. Smartphones and other mobile devices will most likely play an important role in the future of cross-platform measurement of video, which emphasizes the need for acoustic detection of any watermark to identify content or ads.

Note that electronic detection is technically speaking a possible alternative to acoustic detection. But this would require portable devices to connect to some form of home network, be it wireless or Bluetooth. This approach has severe limitations (compared to acoustic detection) which is why so far the industry has not really considered it. For instance:

- Panelists watching programs on not connected TV sets (not IP capable) would not be eligible (unless a specific hardware is added to route the TV program to a wireless network, but HDCP is a barrier to that)
- Even for connected TV sets, re-routing the TV program to a wireless network is not straightforward => very difficult setup (when possible), heavy traffic on the home network,
- Out of Home viewing would not be counted
- Configuration of laptops and mobile devices would have to be considerably modified, which is likely to demotivate panelists
- Setup needs to be redone every time the panelists changes or adds one viewing device.

So, this approach would be far from passive and require quite some capital and operating expenditure. Acoustic detection is therefore the approach favored by the industry to measure total exposure using one device. In order to increase the size of the panels (and reduce capital and operating expense), the industry is also looking at installing detection software on the panelists' personal smartphones, instead of equipping them with dedicated devices.

As a conclusion and also to address the confusion about electronic vs acoustic detection for mobile devices: electronic detection is certainly the best method to identify a content played on the same device. Acoustic detection is required when this device is also used to identify content played on a variety of other viewing devices.

6.1.3 Hybrid Methods

In order to effectively attribute the users to this usage data, two methods are currently being used. One is "hybrid" measurement, in which the Return Path Data is combined with panel data that is also capturing viewing (most likely via acoustic detection).

Note that this method requires a time stamp (and probably also a source ID(s)) in order to combine data across two datasets. The other is "data modeling".

6.1.4 Data Modeling

In this case, the Return Path Data (RPD) is blind-matched at the Household Level in a privacy compliant way to third party data sets which describe various characteristics of the Household, such as their demographic composition and/or their purchasing behavior. Additionally, the Return Path Data can also be blind-matched to usage data for other devices in the household. However, the disadvantage of this approach is that it is at a Household Level, and when you get to measuring unduplicated reach and frequency of content and ads across platforms, it is often difficult to de-duplicate at the level of individual viewers, which is the way that media is currently planned and purchased (see point #2 above). So, even if RPD providers think that audience measurement can ultimately all be measured electronically, due to the need to de-duplicate users across platforms, there will most likely still be the need for panels for the foreseeable future, and thus the need for acoustic detection.

6.2 Conclusions

The Open ID content identifier is not sufficient on its own to support the audience measurement use cases outlined in this document. It must be able to be associated with up to four layers of distribution channel ID, each with its own timestamp, to identify all the entities in the distribution path to the viewer. See Figure 3.

It is also required that the SMPTE Open ID watermarks be detectable acoustically as well as electronically.

Several SMPTE Standards and Recommended Practices have been developed to meet these requirements. SMPTE ST 2112-10 defines the OBID mark, which identifies content. SMPTE 2112-20 defines the OBID-TLC Distribution Mark, which identifies up to four distribution channels, each with its own timestamp. SMPTE RP 2112-1 describes how these two standards can be used to implement an audience measurement system.

Data Element	**Size**	**Acoustic Detection**
Ad-ID	32 bits	Within 15 seconds
EIDR	96 bits	Within 30 seconds
Source ID	32 bits	Within 4 seconds
Timestamp	31 bits	

Table 1: Data Required For Audience Measurement

6.3 High Level Panel Measurement Workflow

At a high level, Panel Measurement has the following characteristics:

- Counts viewers, not device usage
- Limited number of panelists

- Requires explicit opt-in

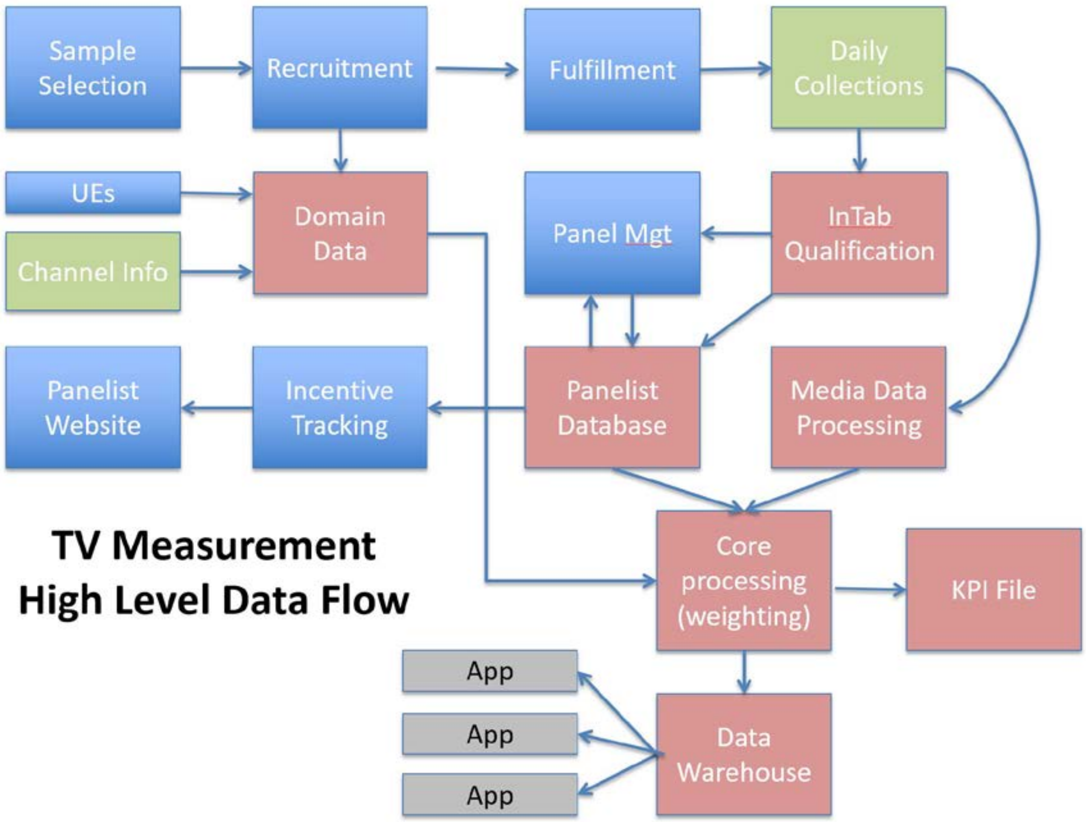

Figure 1: TV Measurement High Level Data Flow

At a high level, the following are sub-systems within a total audience measurement production system:

- Sample selection – assembles and manages the sample frame(s) from which potential panelists are selected.
- Recruitment – selects sample for recruitment based on pre-determined criteria and creates work-orders for field and/or CATI staff.
- Domain data – contains all required reference data necessary for production of audience estimates including population estimates, survey/geographic data, station/media outlet information, panelist and household characteristics, etc. Reference databases ought to be electronically populated (i.e. once a household is recruited, household characteristics ought to be loaded to the reference database on a daily basis.)
- Inventory management – tracks equipment by serial number (meters, handsets, cradles, etc.) assigned to each household and/or individual. This system might be a component within the reference databases or a stand-alone subsystem.
- Collection Management System (CMS) – a parameter-driven system that manages the daily collection of data from meter households. The CMS ought to ‘split’ data into paths for panel management (i.e. compliance data), technical support (i.e. meter problems, etc.) and viewing data.
- Core processing – validates data, identifies it-tab status of each panelist (via qualification edits with manual over-ride capability), creates viewing episodes (applies edit rules, makes time adjustments), weights data, generates work-orders (compliance, equipment) and creates

disaggregated/respondent-level database for output to analysis system. Requires ability to re-process without overwriting initial database. Also compiles sample performance summary tables (per MRC requirements.)

- Panel management – logs, tracks and trends compliance (both in tabular and graphic form) on a household and persons level. Flags behavior out-of-spec with established parameters and generates electronic work-orders for follow-up with panelists. Work orders need to be batched and prioritized by household/panelist and ought to remain open until closed by panel managers. Dispositions to be automatically recorded in contact database. Requires ability to sort and track work-orders on KPIs. The system ought to have capability to generate e-mails and text messages directly from workstation (with capability for auto-generation depending on issue). Technical and meter health issues need to be addressed immediately, while compliance issues need to be monitored daily. Household issues have priority over individual issues, as they potentially impact more panelists.
- Incentive system- manages incentive scheme payouts to panelists including differential plans for demographic sub-groups. Ought to interface with fulfillment or accounts payable system and populate a panelist website so panelists can view and track compliance 'points'.
- Analysis software – web-based, respondent level analysis software featuring rank reports, cross-tabs, composition and duplication reports, data export and graphing capabilities, and ad scheduling analyses.

6.4 High Level Census Measurement Workflow

At a high level, Census Measurement has the following characteristics:

- Counts device usage, not viewers/users
- Can count large number of devices
- Might not require explicit opt-in

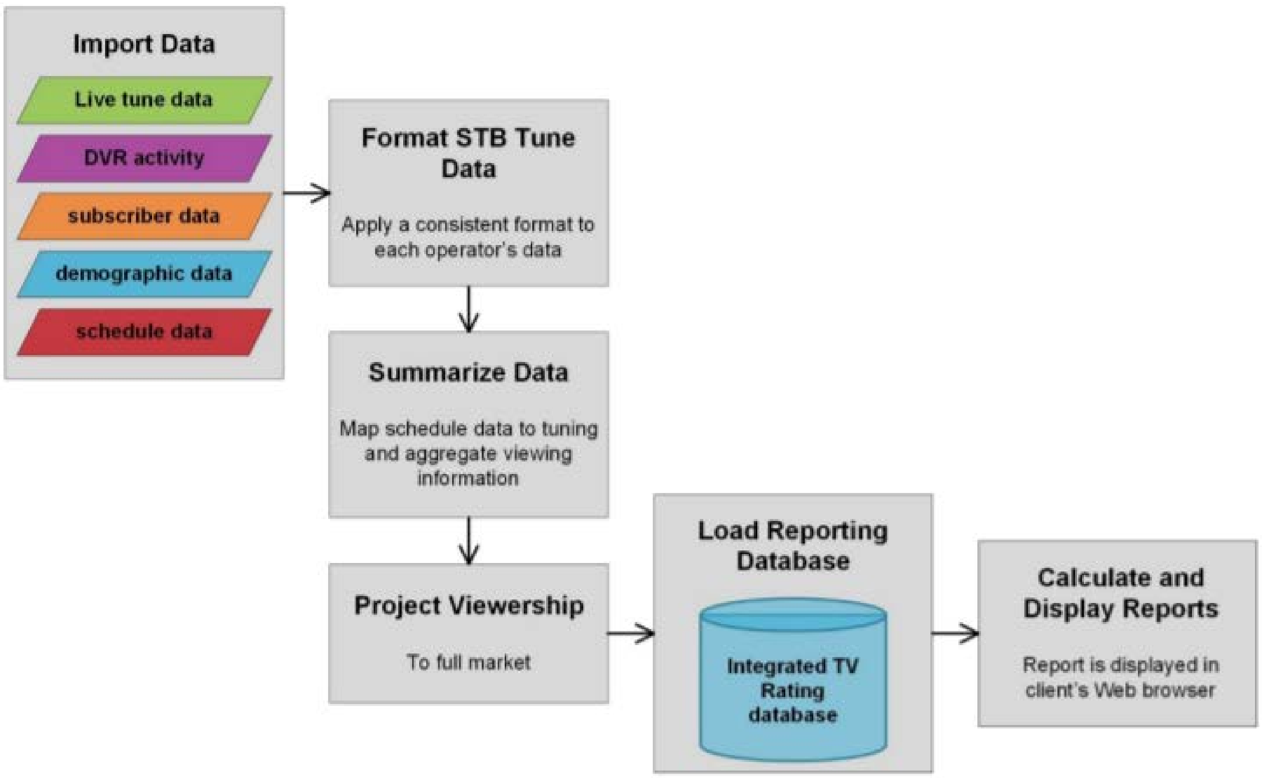

Figure 2: High Level Census Measurement Workflow

6.4.1 Import data

Several categories of data are imported in the process of assembling census based measurement reporting.

6.4.1.1 Live Tune Data

Event-level tune data imported from each MVPD.

6.4.1.2 DVR Activity

DVR activity from the MVPDs to determine which programs were recorded, when they were recorded, and when they were viewed on playback.

6.4.1.2.1 Subscriber Data

Anonymous subscriber information, including the ZIP codes where Set Top Boxes (STBs) and Households (HHs) are located, to derive measurements for specific television markets.

6.4.1.2.2 Demographic Data

To make the reporting HHs representative of the demographic makeup of the entire market, and to apply advanced demographics to reporting.

6.4.1.2.3 Schedule Data

Schedule data at the station level received by third party provider as a baseline. By matching tune information with schedules, we know which live programs were viewed or recorded, and when they were viewed (either live or DVR). Schedule date is curated, updated and validated by a team of people to account for as-run schedule changes (e.g. live event overruns).

6.4.2 Format STB tune data

Disparate MVPD data is parsed, then stored in a consistent format, creating individual tunes.

6.4.3 Summarize data

Summarizers blend the imported data to generate pre-defined aggregations of TV viewing information. The information is summarized to report on individual telecasts, markets, and networks for specific days, weeks, and months. Schedule data is mapped to the tuning data at this step.

6.4.4 Project viewership to full market

For each of the 210 TV markets, use the tuning information that we do have to model the viewing we don’t have

6.4.5 Load the reporting database

The summarized and projected information is loaded into the reporting database.

6.4.6 Calculate and display specific reports

When a client requests a report, calculations specific to the report are executed and displayed in the client’s Web browser.

6.5 Example OBID Workflow

In the figure shown below, a typical workflow, showing the points at which the OBID and OBID-TLC marks are inserted is shown. For more detail on this, please refer to SMPTE RP 2112-1.

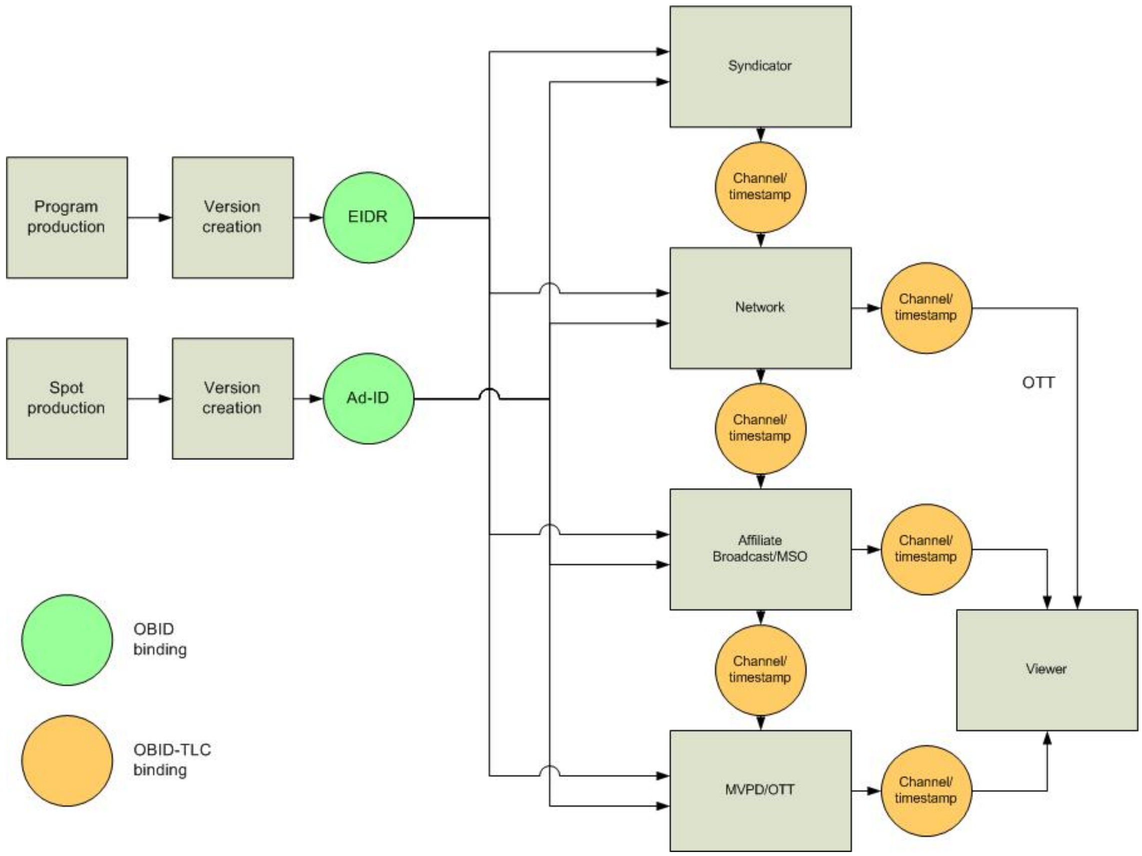

Figure 3: Example OBID Workflow

6.6 Basics

We are living in a world of 24/7 connectivity. We access content on our own terms, and we like it that way. Technology has dramatically transformed the way in which we interact with the world, including how we live, work and communicate.

In effect, the media marketplace has become increasingly fragmented as households continue to embrace alternate viewing platforms. However, these alternate viewing platforms are not encroaching on “traditional media” as media usage continues to grow overall.

The second, third and sometimes fourth screen has become a fundamental extension of the viewing experience. While multiple screens give viewers more options, they also give content providers and advertisers more opportunities and ways to reach and engage with viewers.

Video streaming has seen considerable growth over the last several years. While the threat of streaming potentially hitting a saturation point in a few years comes with the uncertainty of which services will ultimately succeed in the long-term, one thing is certain: Streamers love TV-network content and this content is fueling much of the multi-billion dollar video streaming industry.

Although major SVOD services have seen healthy growth, they're still a fraction of the MVPD subscriber footprint. In fact, there is very little MVPD churn attributable to customers leaving for OTT alternatives and that velocity is slowing. Additionally, the growth of MVPD VOD accessibility in the home continues to drive MVPD retention.

"TV Everywhere" provides yet another vibrant streaming option for programmers and consumers alike. The TVE video viewing is projected to almost double in four years, driven by greater acceptance, more familiarity with authentication process and larger variety of program offerings including sports and new series premieres.

As viewing audiences continue to fragment, it also represents complex challenges for media measurement companies to accurately measure audiences across both content sources and delivery platforms. Universal content (via EIR) and commercial (via Ad-ID) watermarking would greatly enhance the ability to capture and report total viewing.

6.7 Media Rating Council (MRC) Minimum Reporting Standards

The Media Rating Council (MRC) publishes the minimum reporting standards for media rating research, and are considered the authority in this area.

The OBID system is designed to be compliant with these MRC minimum reporting standards. Among the crucial details we took into consideration are:

- The mark must be acoustically detectable
- The minimum length of content to be detected
- The need for a timestamp and distribution identifier

6.8 Distribution Issues That Can Affect Code Insertion and Recovery

There are several things to consider with watermarking systems and signal distribution to optimize audio code insertion and recovery. In general, the better the quality of the audio input into the watermark inserter the better the number and quality of codes inserted. There are several system and signal factors to consider with watermarking systems:

- Avoid excessive use of noise gates. Some content producers want to use noise gates during talk and interview type programming to make the listener feel like they are directly involved in the interview.

The net effect of this is periods of silence between speaking has no noise floor to mask codes. A noise gate setup in the fashion creates long periods of “digital 0” audio which does not allow for masking of codes.

- Check for inter-channel phase delays for 5.1 content. If there are inter-channel phase delays between any of left, center, right, left surround, or right surround, problems will arise during 5.1 to stereo down-mixing. This is because when the content is down-mixed, frequency cancellations will occur which could result in masking frequencies being eliminated which will make to code audible, or code frequencies being eliminated, which would eliminate the code.

- Improper use of equalization of audio can diminish masking frequencies. If the frequencies of interest are attenuated or eliminated, then a watermark inserter will not be able to find masking energy to hide the watermark, and few or no watermarks will be inserted.

- Improper audio signal levels including dynamic range. The more dynamic range, the better. Audio watermarks are inserted at some dB level below the masking audio. If the dynamic range is reduced watermarks might not be able to be inserted or recovered.

- Improper or excessive use of audio processing. Audio processing downstream of a watermark inserter could have an impact on watermarks inserted depending upon the audio processor configuration. Typically the default configurations work fine, but custom configurations have been observed to have a negative impact.

- Encoder inadvertently ‘by-passed’ during maintenance periods or control room reconfigurations. This is also related to having some sort of monitoring or alarm system to monitor and alert loss of codes in a facility. Loss of codes ought to trip an alert if encoding fails in any way.

- Encoder not connected to master clock. Since for OBID-TLC a time stamp is present, the encoder must be attached to a master clock source such as NTP, GPS time, or an accurate LTC source.

- Encoder installed prior to time compression and/or pitch correction equipment (a.k.a. “Lexiconing” or electronic time adjustment). Time and or pitch correction can modify the frequencies of interest therefore making the audio watermarks impossible to decode.

- Station primary and back-up encoder used simultaneously in tandem (resulting in double encoding). Backup encoders ought to be installed in an X/Y configuration and in series. Refer to Figure 4.

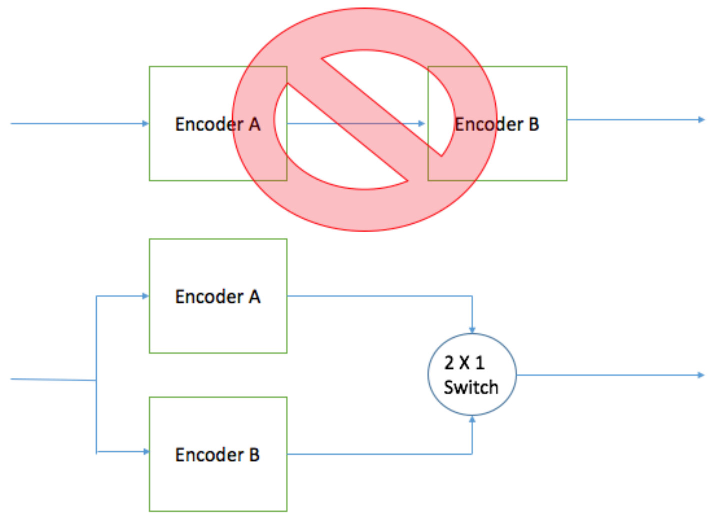

Figure 4: Encoder Backup Configuration

6.9 Code Editing Process

The use of edit rules in the production of audience estimates is required because acoustic detection of audio watermarks is often times not 100% recorded by the meter. This is largely to the background environmental conditions where and when the exposure occurs. The objective of edit and crediting rules is to objectively interpret incomplete or ambiguous data to maximize reporting accuracy.

Note that editing can take place at several points, including in the meter device itself, pre-production processing and during final data processing. Also, edit rules might differ depending on:

- Is watermark detection electrical or acoustic
- Is the meter a ‘fixed’ or portable device
- Is the meter ‘purpose-built’ or an app running on a common device such as a smartphone
- What media (e.g. TV, radio) is being measured? For this summary, we are assuming TV (broadcast, cable, satellite) only.

Edits will generally fall into several categories: technical, qualification/compliance, exposure/attribution and time adjustment/duration. Examples of each follow:

6.9.1 Technical (meter ‘health’ data)

- No data received from a meter.
- Collection faults/corrupted files, i.e. complete data not collected. Note that a fault might be cured if data is collected with 7-days (depending on processing and data release schedules.)
- Device battery status (is the battery not at 100%.)

- Microphone failure (no audio detected.)
- Memory usage (is the memory maxing out?)
- Clock-drift (requires continuous re-sync.)
- Has the detection app been closed?
- # of watermarks collected by each meter changes dramatically (ought to be trended by meter.)
- Data collection method (Wi-Fi or GSM) of meter changes.

6.9.2 Qualification/Compliance

- Did the meter satisfy in-tab qualification (based on motion, other specified device usage metrics such as # of screen unlocks, apps launched, etc.)
- Nil-detections: no code detections recorded for the day.
- Uncovered detections: were detections collected but no panelist compliance.
- Are there identical compliance metrics among panelists within the same household.

6.9.3 Exposure/attribution

- Code attribution is not an exact match (e.g. look forward/backward in data stream within specified time parameter to identify possible logical matches.)
- Excessive total viewing by household and by panelist (i.e. meter)
- Excessive total viewing to single channel.
- Continuous viewing to one channel without a change.
- Identical or similar viewing among panelists.
- Inconsistent data -- inconsistency exists between information collected from the meter and internal database records.

6.9.4 Time adjustment/duration

- Determine if exposure is time-shifted by comparing time of broadcast stamp with meter clock time of exposure.
- Bridging gaps in code detection between two of the same codes.
- Addition of time to beginning of first unique code exposure to compensate for potential lag in detection (lead-in edit.)

- Addition of time at end of unique exposure (trailing edit.)
- 15, 30, or 60-second rounding depending on desired reporting granularity.

7 EIDR or Ad-ID Replacement

One key feature that is supported is the replacement of an OBID watermark with another. In cases in which content is re-purposed, this becomes important. A classic example of this is a sports highlight show, which utilizes content from a variety of sources, each of which might have been marked previously with an OBID watermark. When shown during such a program, it is desirable to replace all of these separate EIDRs (identifying the original clips) with a new overarching EIDR identifying the sports highlight program.

8 Constant Channel Change Scenario

Although audience measurement metering technology allows for very granular channel change detection (in some cases on a second-by second basis when using a direct/electrical connection) the global standard for reporting TV viewership is one minute. Meters that use acoustic watermark detection store a detected watermark every 15 seconds and then apply crediting rules to aggregate 15-second increments into whole minutes for reporting purposes. So while the minimum granularity for acoustic watermark detection is 15 seconds, one minute is the reporting standard.

The OBID-TLC watermark potentially includes up to 4 pairs of channel distribution identifiers (syndicator, network, affiliate, MVPDs plus associated time-stamp) and the requirements state:

> “The binding mechanism need not support the recovery of each identifier from segments with duration less than a specified minimum duration of 30 seconds.”

Therefore it is consistent with current audience measurement practice and standards that OBID-TLC detection be at the 30-second level, with appropriate crediting rules to support whole-minute reporting. An example of one type of crediting rule would be assignment of the entire minute when the two 30-second components are to different channels. In essence, this means that channel changes resulting in viewing of a channel for less than 30-seconds would be unreported.

It is important to note that viewing short-form video content, especially commercials, on digital platforms (PCs, tablets, smartphones) currently uses a different reporting standard, where 3-5 seconds of viewing might attribute viewing for the entire content episode, e.g. 15-seconds, 30-seconds, etc. There are current ongoing industry discussions to harmonize measurement of all forms of video content in cross-platform services.

9 Privacy

Audience measurement necessarily involves the collection of data about individuals’ viewing. As such, it may be subject to data privacy regulations. These regulations differ widely among countries and regions, and may be expected to change over time. While panel methods rely on volunteers who opt into collection of this data, census methods do not. Discussion of all of the implications of data privacy regulations is outside the scope of this document. However, it is necessary that implementers of audience measurement systems be aware that such regulations exist and can be expected to change over time, and that penalties for non-compliance can be severe.

Bibliography

Note: Any links provided here were accurate as of the date of publication of this document.

SMPTE ST 2112-10:2018, Open Binding of Identifiers (OBID)

SMPTE ST 2112-20:2018, Open Binding of Distribution Channel IDs and Timestamps (OBID-TLC)

SMPTE RP 2112-1:2018, Audience Measurement Using OBID and OBID-TLC

Open Binding of IDs to Audiovisual Essence - *Creating an open method of identifying content across multiple platforms*, Society of Motion Picture and Television Engineers, 2014
http://survey.constantcontact.com/survey/a07e9oo5goehyq6yv1d/a0238ojeefganz/questions

Minimum Standards For Media Rating Research, Media Rating Council, 2011
http://mediaratingcouncil.org/MRC%20Minimum%20Standards%20-%20December%202011.pdf