



THE IAB EUROPE GUIDE TO BRAND SAFETY IN CTV

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Section 1. Introduction

Connected TV (CTV) adoption has grown exponentially in recent years. In Europe's biggest markets, approximately 40% of all internet-enabled and TV households now own a smart TV. When streaming devices and gaming consoles are added to the count, CTV viewership figures surpass 50%. That's 61.5 million households.

As a new channel, CTV presents a huge opportunity for advertisers to reach engaged audiences with the right message. But to ensure it is being optimised and used effectively, the right context is also key.

In 2017, the subject of brand safety came under the spotlight when numerous high-profile incidents occurred involving ads from major brands showing up next to unsuitable content. Marketers were made acutely aware of the negative impact of passive brand safety strategies on brand equity and reputation. The enormous risk and ensuing cost, both in revenue and brand image, were finally appreciated across the supply chain. Since then, brand safety has become a common discussion and a top priority among marketers and publishers.

Unprecedented events of 2020, from a global pandemic to international protest movements, have thrust brand safety into the limelight yet again. As the digital advertising industry grapples with economic uncertainty, publishers and advertisers must simultaneously wrestle with the challenges of a news cycle that's dominated by complex, evolving topics whose suitability for marketing placement is highly variant by brand, publisher, and editorial tone.

Today, the modern marketer is equipped with a variety of solutions for brand safety and content verification when dealing with tried and tested digital advertising formats. However, Connected TV (CTV) is a new channel that brings new challenges. As advertising budgets continue to shift to this new, exciting medium, brand safety will remain a top priority. Trust is key to unlocking the full potential of this channel. As with every new or emerging channel, advertisers are excited, but also initially cautious. They want to know that their media investment is protected, and they want to be able to evaluate its efficacy in the same manner that they do other digital media channels. So building great trust within the CTV ecosystem will be imperative as we continue to move forward.

As such, this guide draws on some of the key considerations to help the Digital Advertising industry navigate brand safety in the new CTV environment. The guide provides an overview of brand safety and ad fraud within CTV with best practices, solutions, and case studies.

Written by members of IAB Europe's Quality & Transparency Taskforce, contributors working within the CTV ecosystem have drawn on their expertise and experience to enable the industry to follow best practices and work collaboratively. It is only when we confront challenges that we are able to overcome them to reap the rewards. The taskforce hopes this guide will demonstrate the professionalism and technical expertise applicable to tackling ad fraud and providing brand safe environments in the CTV space, so it can be optimised for success.

Section 2. Definitions

CTV

Initially, when CTV and OTT first gained prominence, there was some confusion around two terms, which were often used interchangeably. In June 2020, IAB Europe released a [Buyer's guide to Connected TV](#) to bring clarity to the often confusing CTV market and align all industry players on clear and concise pan-European definitions. The following definitions were provided:

Advanced TV is an umbrella term referring to any TV content being delivered beyond traditional linear television. Advanced TV describes new digital-like capabilities and impression-based delivery applied to premium video content.

Connected TV (CTV) is a TV that is connected to the internet via an internal device (i.e. Smart TV) or an external device (for example, Apple TV, Roku or gaming consoles). Video content is delivered to a TV screen, through the internet.

'Over the top' (OTT) media which encompasses all Linear TV or VOD (e.g. AVOD or Broadcaster VOD) streaming content providers (such as Netflix, Hulu, etc.). These content providers distribute directly to viewers over the internet.

Brand Safety

The volume of unsafe and unsuitable content online represents a challenge for global advertisers. From inflammatory rhetoric to terrorism and misinformation, the dynamic and unpredictable nature of the digital realm makes it critical to ensure brand-content alignment. In advertising, protecting brand safety and ensuring the delivery of advertising messaging to human beings is rightly a top priority for marketers who want to be assured that WHERE their ads are delivered aligns with WHAT they stand for as a brand. Infractions can have a material, adverse effect on both brand equity and commercial outlook.

Brand safety and suitability describe the controls that digital advertisers employ to protect a brand's ads from appearing alongside content that negatively impacts their brand reputation and perception because it is objectionable, or that may not align with their values and preferences.

IAB Europe's Quality & Transparency Task Force agreed on the following European level definitions for brand safety and brand suitability (As featured in [IAB Europe's Guide to Brand Safety & Brand Suitability](#) published in July 2020):

- **Brand Safety** describes the practices and tools that are put in place to ensure that a digital advertising campaign will not appear next to any content that is illegal (e.g. drug related content) or dangerous (e.g. pornography or violence). It should be applied to every campaign to protect a brand's reputation and not fund any illegal or dangerous content providers. The categories defined by the Brand Safety Floor Framework, initially drafted by the 4As and now supported by the Global Alliance for Responsible Media (GARM), are applicable here.
- **Brand Suitability** describes the practices and tools that are put in place in addition to brand safety controls to ensure that a digital advertising campaign appears against content that is deemed relevant and appropriate for the brand. It equally refers to the ability of a brand to choose the risk profile suitable to their brand - low, medium or high risk. The scale was, as well, developed by the 4As and endorsed by GARM.

In the latest move to bring greater cross-industry collaboration and awareness to challenges of brand safety and brand suitability, it is important to note the work being undertaken by the Global Alliance for Responsible Media (GARM). GARM is an industry-first effort that unites brands, media agencies, platforms, and industry associations to safeguard the potential of digital media by reducing the availability and monetisation of harmful content online. The definitions of brand safety and suitability have been set out in [GARM's Brand Safety Floor and Brand Suitability framework](#).

Ad Fraud

Ad fraud, also referred to as invalid traffic (IVT), is the fraudulent representation of online advertising impressions, clicks, conversions, or data events, in order to generate revenue. These fraudulent activities manipulate delivery channels, significantly impacting an advertiser's return on media investment — often resulting in loss of revenue.

Fraud usually presents itself in three ways:

1. Site Fraud: occurs on a website including, but not limited to, indications of impression laundering, hidden ads and non-human traffic.
2. App Fraud: occurs on mobile, tablet or CTV devices and is broken down into known schemes such as: spoofed apps, hidden ads, background apps, measurement manipulation.
3. Bot Fraud: like Bots and Hijacked Devices.

Ad fraud remains one of the digital advertising industry's biggest hurdles. However, thanks to the overall advances in verification tools and machine-learning technology, our industry is actively working together to build solutions that limit the influence of the fraudsters across all channels, formats and devices. Advertisers should have full confidence in their media investments, and fraud prevention is crucial in reaching that goal. For more information on ad fraud, please read IAB Europe's ['Guide to Ad Fraud'](#). Published in December 2020, the guide expands on the above definitions and best practices to help drive media quality and effectiveness in the digital advertising industry.

Section 3. Market Overview

Consumers across Europe have continued to join the movement of accessing television through streaming services on the big screen. Research shows that CTV has progressed beyond its status as an emerging format and is now considered a complement to traditional services. In fact, according to [new research](#) in April 2021, 70% of consumers have connected their TV to the internet and 89% are using some form of video on demand services. These stats highlight that CTV is not just a fad or just for digital natives or members of the millennial generation. CTV is reaching and engaging audiences across Europe, despite demographics — including age, gender, and location.

With this growth in mind, it is crucial that the industry takes measures to protect both audiences and advertisers within a CTV environment. In December 2019, the IAB Tech Lab released [guidelines](#) for CTV and OTT devices and app identification. These guidelines were a critical step toward improving the ease of transactions and transparency for app-based CTV and OTT environments.

IDs are assigned to mobile apps through an app store, such as Google Play or Apple App Store. Across different platforms, these IDs may be formatted or named differently (i.e. app bundle vs. app ID), but they serve the same purpose — a unique ID for an application on a device. This is a unified way to identify and purchase app inventory, enabling efficient programmatic buying, and is critical to inventory quality initiatives such as app-ads.txt and supply path optimisation (SPO). The new IAB guidelines aim to create the same efficiencies across CTV/OTT app environments.

The CTV/OTT streaming device landscape involves many different devices each with their own interface and applications. Each of these environments has different levels of standardisation and capabilities. Without a standardised way to transact on apps, the advertising industry has struggled to maintain ever-growing lists of hard-coded app bundles in a format similar to “com.platform.appname.” In many cases, a single app on a single platform has several different hard-coded identifiers, creating confusion and operational inefficiencies.

This process was problematic for two main reasons. Firstly, it involved a lot of education and human involvement to buy and sell, even in programmatic environments where historically it has been simple to identify and target media properties that fulfil campaign KPIs.

Secondly, this approach opened doors for bad actors to manufacture fraudulent ad impressions. Quality and transparency measures such as app-ads.txt do not work without a standardised ID that can be validated and verified. Collaborating with the IAB Tech Lab on the OTT/CTV Store Assigned App Identification Guidelines helped improve monetisation, transparency, and quality.

Impression quality and invalid traffic (IVT) in OTT will become a larger issue, particularly with device and app spoofing, un-authorized inventory, upticks in non-human traffic, and ghost apps. Advertisers must also monitor for apps infringing on copyrighted material or posting unsafe content.

Another aspect to consider is the development of app-ads.txt, an extension of the original ads.txt standard released in 2019 to combat issues within in-application ad inventory including mobile and CTV environments. App-ads.txt allows mobile and CTV publishers to list the various vendors authorised to sell their ad inventory within applications.

The growing CTV market introduces more complex monetisation relationships. This can be challenging for the current ads.txt and app-ads.txt specifications to support trading at scale in CTV and OTT environments.

Inventory sharing, when multiple entities may have ownership rights over ad space, increases complexity in the CTV and OTT ad buying process. For example, a virtual multichannel video programming distributor (vMVPD) such as SLING TV, a device manufacturer such as Roku, and programmers (broadcasters or cable networks), such as ESPN, could have content monetisation rights as all play a role in delivering the content to the end consumer.

3.1 The Rise of CTV

In Europe's biggest markets, approximately 40% of all internet-enabled and TV households now own a smart TV. When streaming devices and gaming consoles are added to the count, CTV viewership figures surpass 50% – representing 61.5 million households.

While audiences are accessing this new format in unparalleled numbers, they are also making CTV habitual viewing. It appeals to all ages and lifestyles across all of the Big 5 European markets. SpotX research found that contrary to popular belief, Generation X represents the largest generational segment, representing 43% of all CTV viewers (more than Generation Z and millennials, which represent a combined 32%).

CTV offers an abundance of free-to-view content. The majority of CTV viewers (69%) say they watch ad-supported content and more than half (58%) say that they prefer to watch free ad-supported programming versus paying for an ad-free experience.

Additionally, in a recent FreeWheel/Happydemics consumer survey in France, UK, Italy and Germany it appears that on top of SVOD, viewers confirmed that they used 2.5 additional VOD platforms. This shows the insatiable appetite for content and getting the largest menu to choose from, but also their willingness to use multiple platforms in search for the ideal entertainment.

In this highly fragmented media environment, platforms that drive undivided attention are increasingly vital. When viewers tune into a show, or live stream on a CTV device, they tend to watch it fully (both content and commercials), leading to outstanding ad completion rates above 95%. This is probably due to the full-screen, lean-back experience that CTV enables replicating common linear TV behaviours.

CTV represents one of the biggest opportunities in advertising today. The appeal of CTV to advertisers is clear considering the fast growth of CTV audiences, the measurability of digital video, and the appeal of sight, sound and motion on the living room's biggest screen. CTV is already experiencing exponential growth, both when it comes to ad spend and adoption of this emerging channel.

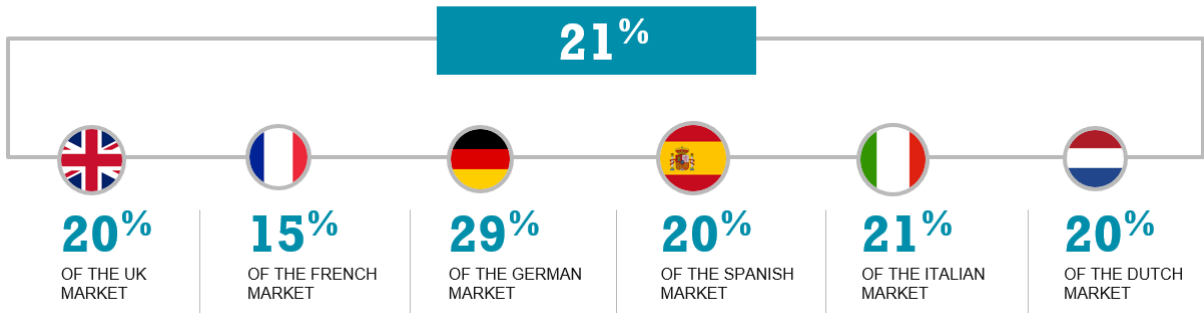
This is resonating throughout the industry as CTV transforms spend and consumption habits:

- [53% advertisers](#) shifting spend from TV to CTV
- [Globally](#), 44% of HH will be cord cutters by 2023 and 82% of them will be using a CTV device by then.
- [CTV viewership](#) has grown to reach 50% of households (representing 61.5 million households) in Europe's five biggest markets.

CTV is becoming critical for marketers looking for a full-funnel solution to maximise reach and effectively build their brand. Relying on traditional TV alone is a missed opportunity as more and more households can now only be reached by CTV. In other words, with a CTV strategy you are able to reach the "unreachables."

Research by Rakuten Advertising titled *'AVOD the time is now'*, also highlights this as across markets, 21% of consumers using streaming services indicate they are not watching linear TV at all.

Percentage of European Consumers Who Stream But Do Not Watch Linear TV.



3.2 The Importance of Establishing Trust and Confidence

As the adoption of CTV continues to grow rapidly, trust is key to unlocking the full potential of this channel. As with every new or emerging channel, such as social channels, advertisers are excited, but also initially cautious. They want to know that their media investment is protected, and they want to be able to evaluate its efficacy in the same manner that they do other digital media channels. So building great trust within the CTV ecosystem will be imperative as we continue to move forward.

A key part of building trust will be continuing to detect fraudulent traffic. However, we also need to take several other steps to create a more trustworthy, and accountable, ecosystem:

- Demanding standards for how we measure CTV impressions. This begins with focusing on true media quality — for an impression to count it should be fully viewed, by a real person, in a brand safe environment, within the intended geography.
- Certifying platforms that can demonstrate a proven ability to prevent fraud.
- Building transparency into campaign reports so CTV buyers know exactly where campaigns are running, across all devices.
- Supporting third-party verification services to ensure no one grades their own homework.

As the CTV landscape is increasingly fragmented, trust and transparency will be at the heart of any campaign success. The need to understand media value and connect the dots between marketing efforts and results within CTV environments is driving conversations across the industry. The call to action is clear: increase trust and transparency, increase effectiveness.

Currently, the CTV ecosystem is not as transparent as other digital environments and this can cause a lack of confidence for further brand investment. In order to drive the CTV opportunity across Europe, it is imperative that brands can access the same reporting and insights that they have access to in other environments. This will build trust, confidence and future investment in this rapidly emerging medium.

3.3 Ad Fraud in CTV

Brands in Europe are now spending around €4.7 billion on digital advertising, and they want to know that this significant investment isn't squandered. But with the World Federation of Advertisers (WFA) estimating that by 2021 over \$50 billion will be wasted annually on Ad Fraud, it is vital for all stakeholders to ensure they have the right preventive measures in place.

The more established digital landscape has a clear set of standards that make it easier to identify and measure fraudulent advertising activity. The relatively nascent playground of CTV isn't yet afforded that same safety net.

The rapidly growing CTV space is outpacing industry standards and guidelines on measuring invalid traffic. Digital ad verification providers are bound by industry standards on how to measure invalid traffic, and currently there is a lack of standards governing the CTV app space as it is very fragmented. Even across a single publisher, they can have different ways of serving ads into their CTV apps across their different properties.

As with other attractive emerging channels, fraud follows the money. With healthy CPMs and increased viewership, CTV has become a target. As more dollars flow into areas like CTV, nefarious characters looking to upend the security of ad buyers and sellers grows.

CTV is particularly attractive to fraudsters for a number of reasons:

- High CPMs
- High demand and engagement
- The way in which ads are delivered (SSAI vs. direct measurement)
- The introduction of intermediaries (via programmatic) that are incremental to the transaction

It is clear however, that certain types of fraud are not possible in this environment. For example, cookies and clicks are not supported in a CTV environment.

CTV fraud scenarios include bots, device spoofing (where devices are obfuscating their attributes to masquerade as legitimate), browser spoofing, and malicious CTV apps. This fraud is split into the following main categories:

- Spoofing: Fraudsters may buy lower-price mobile or desktop display inventory for less than a \$1 CPM, change the ad calls to resemble premium CTV video inventory, and resell the inventory at CPMs frequently greater than \$20.
- Fraudulent & malicious apps: Fraudsters can easily create their own CTV apps and release them to both open and closed app stores. Hundreds of apps are out there with few downloads, but millions of impressions. Some fraudsters create ostensibly legitimate tech tools that they offer to app creators; these tools are then used as a “trojan horse” that allows them to commit fraud - all unbeknownst to the app developer. Malicious apps are able to render ads even when the app is closed or backgrounded. The app can also spoof Device ID or App Name in order to capture abnormally high volume of ads per device.
- SSAI fraud: Server-side Ad Insertion (SSAI) technology has some amazing benefits - like reducing latency, thereby speeding up delivery and improving the viewing experience. Unfortunately, it can be leveraged to generate fraud at scale. Fraudsters can either create their own servers or buy into cloud space to completely falsify the information about an impression opportunity (app/IP/device/etc.) and generate completely fake traffic. Imagine millions or billions of impressions firing off from a server farm. And because measurement doesn't happen directly on the CTV device, but at the server level, it can be even more challenging to detect.
- Bot Fraud: As on other devices, bot fraud occurs when impressions are served to a fraudulent, non-human requestor. Often, bots will target CTV inventory by spoofing the device type to appear as if they are a CTV device.
- Browser and device spoofing - Fraudsters will send false device or browser information so the ad serves elsewhere and not within CTV environments. This type of fraud misrepresents non-CTV devices, as highly-valued CTV ones.
- Invalid user agent - User agents, the string that identifies an entity making an ad request, can often be flagged as invalid in CTV environments. This type of ad fraud is often used by bots trying to hide their tracks.

However, for CTV environments, invalid user agents do not always signify invalid traffic. User agents are often categorised as invalid for CTV environments when they are not registered with the IAB, as it is not able to be recognised as an authentic entity. This highlights that there can be a higher degree of possibility for false positives when identifying ad fraud in CTV environments. More sophisticated ad verification providers work to integrate directly with publishers and support their publisher partners to ensure they register with IAB.

The last 12 months have acted as a catalyst for CTV to skyrocket across the ecosystem, and, as expected, we saw an increase in fraudulent activity. For example, in 2020, DoubleVerify detected:

- Over 500,000 fraudulent device signatures detected daily.
- Identified over 1,800 fraudulent CTV apps in 2020.
- Saw CTV fraud impressions increase 220% in 2020 compared with 2019.
- 12 major CTV-focused fraud schemes were identified in 2020 and almost 20 overall. For CTV, these schemes would siphon off tens of millions of dollars a year if left unchecked -- hurting advertisers and publishers alike.

Growth in the CTV video fraud rate in EMEA has outpaced other regions, growing 50% month-over-month from Dec 2020 to Jan 2021 and +270% vs. Jan 2020. DoubleVerify flagged over 10 times more fraudulent CTV video impressions for EMEA advertisers in Jan 2021 compared with Jan 2020.

Not only is the level of fraudulent activity increasing, but fraudsters are also becoming more sophisticated in how they are targeting. January 2021 saw the rise of ParrotTerra, where fraudsters set up counterfeit server-side ad insertion (SSAI) servers to generate fake CTV inventory across countless apps, IPs and devices. This involved identifying and blocking the biggest CTV fraud scheme to date which was spoofing [3.7 million device signatures each day](#).

Inevitably more schemes will likely follow, particularly when emerging channels like CTV are involved, where demand outstrips supply and measurement or safety technologies are not yet widely adopted.

3.4 Brand Safety in CTV

Addressing brand safety in CTV today is still a nascent area and innovation in this space is imminent. Currently brand safety within CTV environments can be offered at the app or content level.

With app-level brand safety, brands can gain access to classifications of CTV apps and can use this information to determine if there are certain areas of CTV inventory that does not align to their brand safety requirements. While not as granular as content-level applications of brand safety and brand suitability, these tools begin to provide advertisers with important mechanisms for controlling the types of content their ads run alongside. App-level brand safety can present a challenge to buyers with limiting scale, depending on the market.

The latest innovation in brand safety for CTV centers on channel and content-level brand safety. Where brands will be able to understand and define the CTV programmes that they want their advertising to appear alongside. This is critically important in CTV environments where there are a multitude of content aggregators and apps can host a plethora of content. In order to support the drive in this area of innovation, publishers should make content-level information available to their buyers to give them the ability to target contextually relevant ads on CTV.

Ad verification in CTV has been successful when providers work with publishers directly to gain access to content-level information and can validate that video ads are played to completion, and are fraud-free.

Brand safety has been highlighted in 2020 as a result of COVID, protests, elections, and more, but it has been a concern for advertisers for a long time. In fact, one of the attractions of digital advertising is the ability to provide marketers with controls that granularly manage the context in where their ads appear. This includes keyword-based exclusion/inclusion and sentiment analysis tools. COVID exemplified the need for sophistication and nuance in Brand Safety applications in 2020. As the terminology used surrounding COVID content evolved quickly to include previously unknown phrases like “shelter in place” and “flattening the curve”, it became clear dynamic brand safety tools created less opportunity for error than tools such as exclusion lists. In addition, since many advertisers quickly adopted exclusion lists for COVID-related content, this resulted in significantly reduced scale, and created challenges to many publishers who struggled to monetise their audiences as COVID content became more pervasive and included in otherwise brand safe topics such as cooking and retail.

According to IAB Tech Lab, Brand safety (and its lesser known but equally important sibling, “[brand suitability](#)”) are difficult technical challenges due to the complexity of understanding sentiment, as well as the sheer volume of content that needs to be processed, much of it in real time. Brand Safety vendors in the space are working to resolve these problems. At Tech Lab, they are focussed on building the plumbing that supports the industry: the ability to articulate the concepts, communicate the required metadata, and take actions based on the data.

The brand safety features within Tech Lab’s standards fall under three main groups:

1. Categorisation:

The Content Taxonomy provides a standard way to describe site/app content. Its use allows marketers to work across various platforms and vendors, and consistently articulate the types of content they want / do not want their ads to appear on, through a “common language”. The richness of the taxonomy allows flexibility in how granularly (or not) the controls can be configured. The categories in the taxonomy can be used both to target specific types of content or to define suitability restrictions on various content categories.

In addition, IAB Tech Lab has worked with the [Global Alliance for Responsible Media](#) (GARM) & the 4As/APB (Advertiser Protection Bureau) to include an update (version 2.2) to the Content Taxonomy to incorporate the concepts of “Brand Safety Floor” and “Brand Suitability”. This will help marketers take their concepts of brand values and risk tolerance, and apply them consistently across platforms.

2. Communication

VAST4, OpenRTB, and Open Measurement all enable brand safety checks by providing mechanisms to pass the page URLs, categories, and other metadata about the content of an impression. This basic metadata is necessary for brand safety vendors to analyse content and help buyers make brand safety/suitability decisions. It is important to note that challenges with post-bid processing on CTV devices mean that publishers and tech vendors should do their best to support pre-bid scenarios where possible.

3. Action

In many cases, a brand safety decision can only be reached post-bid, when an ad is being delivered. In cases where content is considered unsuitable for the brand, buyers prefer to stop the ad from being rendered.

The ability to block or swap ads that were deemed “unsuitable” has historically been done either via proprietary methods, or via VPAID for video ads (only on the Web).

As IAB Tech Lab encourages eliminating VPAID (for efficiency and safety reasons), the Open Measurement team is working on supporting this in a clean and transparent manner. This is not a capability typically available on mobile or CTV at the moment, but is worth being aware of for the longer term.

Section 4. Solutions

With the emergence of CTV as an integral part of digital media buys, advertisers are demanding transparency and protection across all screens where their ads run.

4.1 Transparency Solutions

Transparency should be at the top of every buyer's mind, even in CTV. CTV is not a brand safe platform by default. It has the same variety of issues, content, and apps as any other digital platform. For example, pornography apps are available across most CTV devices, and brands that aren't careful are running campaigns in these locations.

Additionally, the industry is currently built with 'BundleIDs' (an ID for an app) as the most common and granular standard for targeting and transparency, but there's effectively no standard or even controls on how these are named and if they are consistent from platform to platform.

To enable and support transparency, buyers and sellers can lean in to the following:

- **Buy-side app-level transparency:** Buyers can work with a third-party verification provider who has a transparency solution that addresses CTV Bundle ID and naming conventions. Solutions should include not just revealing BundleIDs, but also which apps those BundleIDs roll up into and some normalisation of app names across the app stores.
- **Buy-side CTV pre-bid targeting:** Buyers can work with third-party contextual providers who help apply consistent pre-bid brand safety approaches across Desktop, Mobile, Video, and CTV at the app and potentially even content level within a DSP. This can provide more sophistication than blunt objects like inclusion/exclusion lists and aids advertisers to only pay for those impressions that meet their brand safety and suitability criteria.
- **Buy-side inclusion/exclusion lists:** Popular for Desktop/Mobile campaigns, buyers can also set inclusion and exclusion lists around CTV apps.
 - Identify if there are specific apps that are appropriate or inappropriate for the brand.

- Monitor delivery reporting to measure campaign quality and identify infractions.
 - Optimise campaigns in-flight and refine future strategies.
 - Utilise protective solutions (see below) to ensure a campaign doesn't deliver where it shouldn't.
- **Sell-side app-level transparency:** Sellers can support passing app-level identifiers through bid-streams, user-agents, and VAST macros to help buyers better understand where their campaigns are delivering. DoubleVerify currently only detects BundleID's passed with around 50% of CTV impressions.
 - **Sell-side content-level transparency:** Sellers can enable advertisers to apply content-level brand safety through IOs, PMPs, or open exchange buying through solutions like Comscore's patent-pending CTV contextual solution for live streaming and video on demand. By applying second by second and frame by frame technology, advertisers can apply consistent brand safety and suitability criteria across content types. This categorisation helps publishers better monetise topics like hard news content and gives advertisers the ability to extend reach and step away from entire genre exclusions.
 - **Content-level transparency:** Buyers and Sellers should move to support content-level transparency. Knowing the exact video/program that a campaign ran in should be standard, particularly as many CTV apps include a large variety of content. Sellers can support passing content-level information in bid streams and VAST macros, as well as sharing video asset/CMS data with third-party verification companies.

4.2 Protective Solutions

When it comes to protection in digital video, current controls suffer from a number of gaps. Less than 40% of desktop & mobile video impressions are eligible for VPAID-based blocking, according to DoubleVerify data. This challenge is most acute in CTV and mobile app environments, where VPAID isn't available. To help bring protections into CTV and across all screens.

- Video Filtering is a new innovation that reduces infractions and associated wasted investment across all video environments and devices, even where blocking is not supported. The feature works by evaluating VAST requests to buyer's tags. If a VAST request is found non-compliant with the buyer's rules, a blank VAST response is returned and the request is effectively filtered out from delivery.

- Video Filtering is estimated to further reduce the delivery of non-compliant impressions by 40% on average.
- Video Filtering is easily supportable across the industry — it relies on existing VAST specifications and has been actively working throughout the ecosystem since early 2020.
- Video Filtering is publisher and user-friendly without the drawbacks commonly associated with VPAID-based blocking. Unlike VPAID, it doesn't take place on a user's device and standard sell-side ad servers are already built to replace blank VAST responses with other ads to still monetise the filtered impressions.

4.3 Viewability in CTV

Unfortunately for all of us, industry standard viewability measurement requires either VPAID or Open Measurement, neither of which are currently available in CTV. Open Measurement will get there, but it's not available yet. So, if you don't want to wait, what options do you have? Well:

Quartile Measurement Solution: Measures quartile completion via image tags implemented on standard VAST quartile trackers. These trackers are supported today on effectively all CTV traffic that is compliant with VAST 2.0 and higher.

VAST Visibility Certification: Certified impressions are confirmed to originate from sources (devices, apps, platforms) that deliver 100% of the ad's pixels on the screen consistently. These metrics are the best proxy for viewability — ensuring that all the ad's pixels were visible on the screen for the duration of the measured quartile.

Section 5. Key Considerations

Validated IDs

Media owners transacting in CTV should transition to validated IDs if they have not already. It is vital that app-ads.txt is supported both by the media owner as well as the app store in which transactions take place. This will drastically improve buying efficiencies and protect media owners from falling victim to bad actors attempting to spoof inventory.

For media owners looking for further assistance, speaking to your ad tech partner and referencing the IAB Tech Lab guidelines is a good place to start.

For buyers, it is a good idea to consolidate white lists and buying practices to ensure validated IDs are used where applicable. Over time, this should create operational efficiencies and clarity on exactly what is being purchased, freeing the buyer to focus on how its media is performing instead.

Prioritise SPO

More organisations are prioritising supply path optimisation (SPO) as they understand the benefits of a streamlined supply chain. Today, the promise of SPO is to deliver unique value from a roster of preferred partners with an elevated focus on premium inventory, including technical innovation, unique inventory access points, first- and third-party data, and priority buying.

Because SPO is a large undertaking, organisations can break it down into five pillars of execution:

1. Evaluation
2. Transparency
3. Consolidation
4. Resources
5. Execution

Transparency in itself is a complex pillar because it carries a different meaning for every organisation. Buyers want more transparency across the entire supply path, but transparency takes many forms and some aspects may be valued higher than others within your organisation.

These are some of the key areas to consider:

- Auction dynamics
- Inventory quality
- Traffic filtering
- Supply analysis
- Log-level data

Don't forget that channels are nuanced. CTV, video, and display are all unique, so it's important to understand the technical advantages of working with each partner within each channel.

Key Considerations Case Study

In 2019, after running the industry's first CTV measurement beta with Verizon and 15 major advertisers, IAS found three key recommendations for CTV advertising.

1. Supply-side data standardisation: publishers must support CTV-specific standardised data points in order to correctly separate ad fraud from the false positives caused by a lack of data.
2. Device registration: CTV device makers and app developers should prioritise reporting their user agent string with the IAB to ensure their device or app is universally recognised.
3. Standardise identification practices: There is work to standardise App IDs in CTV, but in the meantime publishers should be consistent and descriptive in how they name their properties.

These would be the first steps to help differentiate legitimate CTV advertising activity from ad fraud, which would help ad verification providers tidy up the open exchange.

The other major dilemma that must be addressed for the industry to truly get ahead in CTV, is that publishers rarely share content-level information. This means that advertisers don't often know where their ads appear in CTV environments. Advertisers should be aware of this issue, be vocal with their media partners that they need content-level information and push for this much needed transparency.

Section 6. Campaign Best Practices

2021 is a key moment for the industry to reflect on the past decade of digital advertising and channel lessons learnt into the development of the CTV ecosystem. Transparency, measurement and brand safety must be prioritised and all players should be responsible for building on these principles in the future. Best practices to consider include:

- Only working directly with supply sources you know and trust such as an SSP, DSP, device manufacturer or media owner. Eliminate middlemen that do not clearly add value.
- Ask questions such as: Have you ever heard of this app? Do any of your friends or family in ad tech know the app? Do you recognise the content? Is the content properly licensed or original work? Do you see the app as being valuable to the end consumer? If you can't confidently say yes to all of these questions, it's worth evaluating whether you wish to include it in your plan. Although with 20,800 apps in the Roku app store and the rise of premium content appearing through vMVPDs, relying on manually identifying each CTV app may hinder scale and cease to be feasible in short order.
- Only work with partners who support both sellers.json and the OpenRTB SupplyChain. This will help you understand if an impression is truly direct or sold through an unnecessary middleman. Encourage your partners to provide this level of insight if you're not getting it today. When suppliers are not transparent about the source of their traffic, 99% of the time it's because the traffic is highly questionable.
- Use data to flag anomalies. Look for patterns that are not indicative of human behaviour. This includes users who never visit well-known apps, users who are active in only a certain developer or developer network, users who see unreasonable amounts of ads per day, or unknown entities using SSAI services.
- Standardisation. Publishers can look to support CTV standardised data points to correctly identify CTV environments and app publishers should be consistent and descriptive in how they name their properties.
- Register CTV devices and apps. CTV app developers and device manufacturers should report their user agent strings with the IAB to ensure their device or app is universally recognised.

Section 7. Key questions To Ask When Planning a CTV Ad Campaign

From a campaign and set-up stand point the following protocols should be considered:

- **Frequency capping:** Frequency capping is available for CTV inventory based on device IFA, though, due to relatively lower levels of available inventory in EMEA compared to Online Video (OLV), a less restrictive frequency strategy is recommended.
- **Legitimate interest:** CTV placements are passed with legitimate interest consent values (in most cases) due to a lack of consent management platforms (CMPs) existing for this format - market standard at the current time.
- **Cookie-less environment:** CTV is a cookie-less environment and as such, any cookie-based audience strategies will struggle to deliver - market standard at the current time.
- **VAST creative:** CTV environments will only accept VAST creatives. No VPAID elements of any kind can be applied to buy-side creatives - market standard at the current time.
- **Viewability measurement:** Due to being a non-VPAID environment, viewability tracking is not available. That said, CTV is a 100% in-view placement by nature - a market standard at the current time.
- **Device type:** CTV campaigns must be set up to deliver on device types: 3, 6 & 7 in order to deliver. Confirm with your DSP account manager if you're unsure.
- **Performance expectations:** By nature of the environment, CTV campaigns will deliver 100% in-view and between 90-100% completion rates.

Section 8. Looking Forward – What The Market Needs To Do

Standardisation

One of the features that has stood out over the last year for CTV-based ad fraud attacks is the degree to which they leverage app spoofing, an attack type that app-ads.txt is in part designed to combat. With the recent IAB rollout of an update to the app-ads.txt spec to include CTV as well as data providers already aggregating and providing CTV app-ads.txt data, the time is now to start pushing for industry adoption so that the successes of ads.txt and app-ads.txt as an anti-fraud and SPO tool for other inventory types can be mirrored for CTV.

The less centralised situation for CTV apps and non-standardised app names pose a challenge to this approach, but there is a need to push CTV publishers to support this spec so that the significant gaps in support for this data can be closed quickly and adoption can ramp up.

Publishers are the most critical component of many standardisation efforts. Their support will also be key to help monetise their inventory with efforts like standardising content classification for contextual Brand Safety and Brand Suitability tools. The more they do this, the more they will be helped to prevent avoidance and blocking due to Brand Safety, which will help ensure spend levels stay strong, thus driving demand.

Video classification needs standardised methods for passing in the ad ecosystem, such as using the content object of the bid request to pass an ID or similar solutions or partnering with contextual leaders like Comscore or IRIS.TV with the tech solutions to do frame by frame categorisation. Comscore's new patent-pending solutions to apply brand safety to livestreaming content help ensure that whether the CTV content is on demand or being livestreamed, advertisers can apply brand safety standards. They are also needed to support app-ads.txt for CTV. Without publisher adoption of this spec, including efforts to standardise app formats, CTV will lag behind other inventory types when it comes to this critical element of ad fraud protection.

Categorisation of video inventory will also play a significant role as identity issues continue to challenge the addressability of CTV and/or Video content. As Device ID and IP address based ID signals become unreliable dictated by legislative changes, contextual audiences will increase in demand to provide alternatives to brand safety and targeting solutions.

An additional concern is the lack of a standardised Viewability metric for CTV. While some argue that CTV devices by nature do not pose as significant a need for Viewability, the fact remains that it is an important additional quality metric that leverages different validation methods on device.

A rollout of OMSDK for CTV could help facilitate Viewability in addition to other on-device verification standards, since it could diminish the challenges posed by SSAI as an intermediate step in video delivery.

Transparency

The foundation for transparency within CTV environments is already available. In 2018, the IAB released specifications on how to achieve device, app, and content-level transparency within CTV and other digital environments. This specification outlined a standard set of macros (i.e. data fields) that are implemented in VAST (the backbone for nearly all digital ad serving). These macros, when supported by sellers, can be used by buyers and verification partners to know and control exactly where ads are serving.

While this is an important first step, the specifications have yet to be widely adopted. Publishers still need to build support at scale for the IAB macros, and many even exclude app-level identifiers like Bundle ID in ad calls. This inertia is primarily due to a lack of publisher education and the need for buyers to demand greater transparency in CTV.

There is a growing demand for transparency moving forward. Transparency is increasingly being included in upfront sales deal negotiations, including language requiring app and content-level transparency. It's critical that these terms become standard to ensure brand safety is available at scale in CTV.

Section 9. The Future of Brand Safety & CTV

Brand Safety has been evolving both by design and out of necessity, with the advent of Brand Suitability as conceived by the 4As, GARM, and the IAB, as well as with the enhanced focus on more sophisticated contextual solutions using machine learning. This has exploded as sensitive and important social events require a more nuanced approach than traditional brand safety methods, which can result in over-blocking. There is a need for advanced contextual solutions, which becomes challenging in video environments. Videos on a page might be rudimentarily categorised based on page content, but videos via OTT and even more specifically CTV need an approach that can deeply analyse video content for context to support brand safety.

Approaches that use granular metadata about video content, genre, etc. are a beginning, but as time progresses more advanced approaches that can actually analyse video frame-by-frame and audio second-by-second will become more important. Additionally, the industry needs to coalesce around standards used for associating contextual classification data with videos for both pre-bid filtration segments and post-bid monitoring and blocking.

CTV represents one of the biggest opportunities in advertising today. The appeal of CTV to advertisers is clear when one considers the fast growth of CTV audiences, the measurability of digital video, and the appeal of sight, sound and motion on the living room's biggest screen.

However, trust is the key to unlocking this potential. As with every new or emerging channel, advertisers are excited, but also cautious. They want to know that their media investment is protected, and they want to be able to evaluate the efficacy of the channel in the same manner that they do other digital media channels. Brand safety needs to be looked at as a first priority for brands, as it will allow them to explore the creative and innovative possibilities of a premium environment.

Since the first ad verification solution for Connected TV was introduced in 2019 there has been continual innovation in this space. Channel and content-level brand safety will be key to truly providing advertisers the confidence they seek in CTV environments. The biggest advancements in this area of brand safety for CTV are to come, as it requires greater collaboration across the industry, working with broadcasters and publishers to usher-in a new era of transparency in CTV.



Furthermore, with fraudsters increasingly focused on CTV as a high-value environment, it's important that brands, programmers and publishers work together with ad verification companies to facilitate trust while maintaining a quality user experience.

Section 10. Case Study

NortonLifeLock Leverages DoubleVerify's Video Complete to Improve Campaign Efficiency & Effectiveness

The Challenge

Advertisers leverage a number of controls to authenticate the quality of their digital campaigns and protect brand equity. Blocking provides the last line of defense against fraud and brand suitability incidents by preventing ads from appearing in non-compliant environments. Unfortunately, when it comes to video advertising, less than 40% of impressions across desktop and mobile are eligible for blocking, according to DoubleVerify data. This is because video blocking requires a technology standard called VPAID, which is not widely supported. As a result, advertisers are not always able to leverage blocking on video to protect their brand. This is an even bigger problem in CTV, where VPAID has zero coverage.

NortonLifeLock, a provider of cyber safety solutions for consumers worldwide, approached DoubleVerify to understand how they can further protect themselves while running video campaigns across desktop, mobile and CTV.

The Solution

DoubleVerify's Video Complete is the industry's most comprehensive solution for active protection. It combines two historical standards for control, pre-bid avoidance and blocking, with a new layer of protection. This additional layer of protection, Video Filtering, works in conjunction with existing controls. The solution enables advertisers to further minimise video infractions for campaigns executed directly via a publisher or through a DSP. Video Filtering works across devices including CTV, mobile and desktop.

On behalf of NortonLifeLock, DoubleVerify implemented Video Filtering on two video campaigns to verify that filtering, in conjunction with avoidance and blocking, can effectively reduce brand suitability, geo, and fraud issues.

*"Given that post-bid blocking coverage is lacking when it comes to video advertising, we wanted to put in place proper protection measures across our CTV and digital video campaigns. By leveraging DV's Video Complete solution, we were able to substantially reduce non-compliant traffic, helping to improve the quality and performance of our video campaigns." **Saqib Pasha, NortonLifeLock.***

The Results

96% drop seen by Norton in non-compliant impressions after implementing video filtering.

Video Filtering was extremely effective in further reducing waste on video campaigns for NortonLifeLock. Immediately after activating the solution, the number of non-compliant impressions across all devices (desktop, mobile and CTV) dropped by 96%. For the first time, fraudulent and out-of-geo traffic was also effectively eliminated across CTV. Video Complete, powered with Video Filtering, offers the most robust solution for minimising infractions across fraud, brand suitability and in-geo for video campaigns.

Further, it's the first and only market solution that enables active protection in CTV environments where blocking is not available.

Section 11. Summary

CTV represents one of the biggest opportunities in advertising today. The appeal of CTV to advertisers is clear when one considers the fast growth of CTV audiences, the measurability of digital video, and the appeal of sight, sound and motion on the living room's biggest screen. With this new and exciting channel, it is important that the industry does not repeat mistakes made in the early days of digital, and instead draws upon the expertise of verification partners, trusted publishers and campaign best practices to place brand safety at the forefront of every campaign. Providing advertisers with full confidence in their CTV investments is vital.

This guide should provide education to all stakeholders on the brand safety and ad fraud market, with best practices, solutions and case studies on how any challenges can be tackled.

IAB Europe would like to thank all of the contributors to this guide who continue to maintain and push for high industry standards.

In addition to the CTV brand safety advancements being undertaken, it is key to understand the evolving framework for brand safety and suitability. Ad verification providers have a responsibility to both assess brand risk and help establish a reliable standard for brand safety and suitability for all digital environments. That's why some brand safety providers have taken an active role in developing and implementing the Global Alliance for Responsible Media (GARM)'s Brand Safety Floor and Brand Suitability Framework.

For the future of brand safety and CTV, the industry must continue to work together. IAB Europe will continue to collaborate with members and industry stakeholders to advance the reputation of the CTV market and encourage brand trust and investment.

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