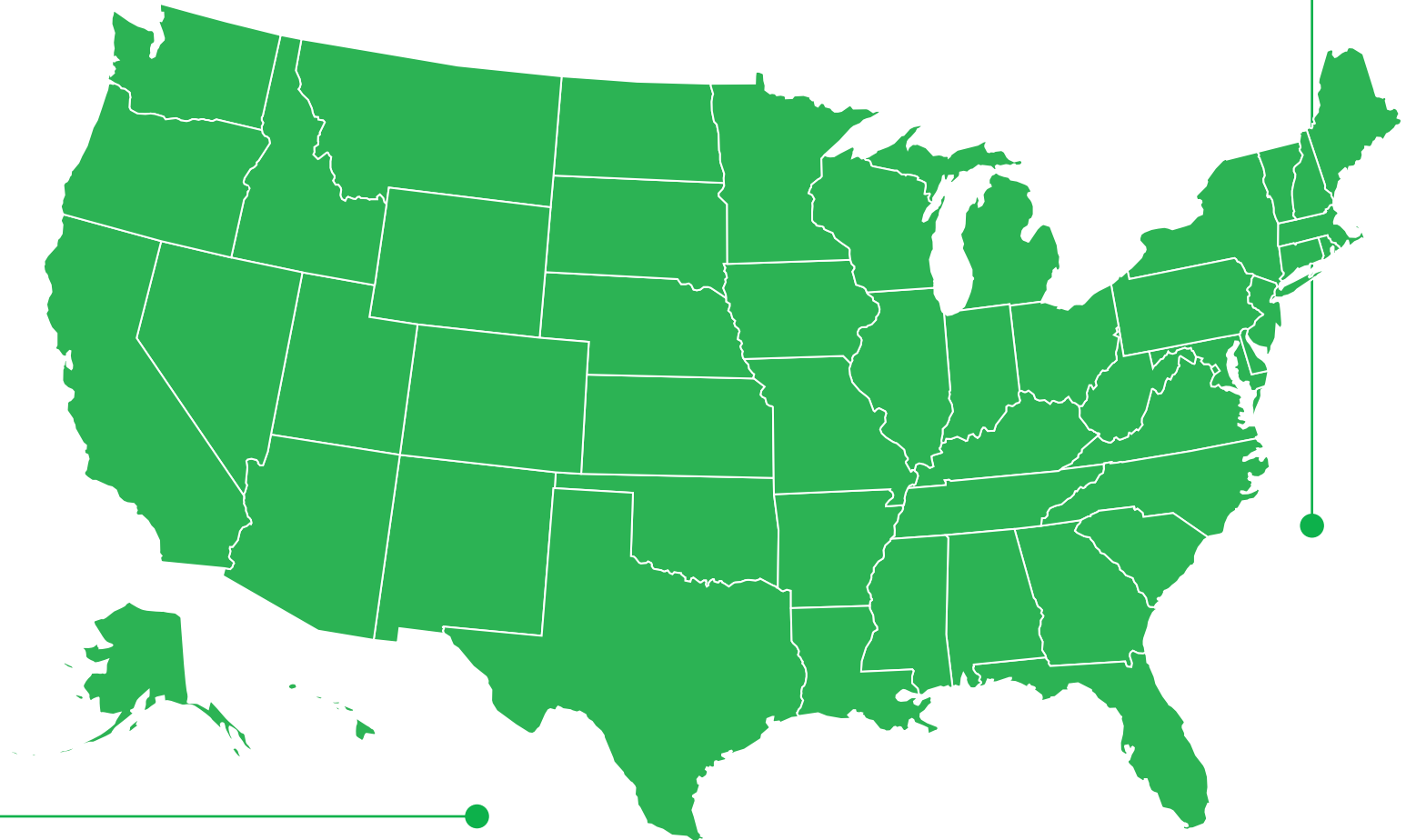


TAG US Fraud Benchmark Report

November 2021

A report conducted by The 614 Group, commissioned by the
Trustworthy Accountability Group



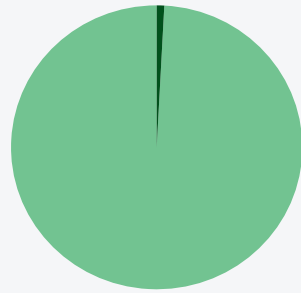
Executive Summary

For the digital advertising industry to prosper, brand advertisers must be able to trust that their ads appear in brand-safe environments and that their ad spend isn't wasted on fraudulent transactions. The Trustworthy Accountability Group (TAG) was founded in 2014 to foster such confidence and trust in digital advertising by helping companies in all areas of digital advertising work together to ensure quality and brand safety.

TAG's Certified Against Fraud Program (TAG Certification) focuses on combating invalid traffic (IVT) across the digital advertising supply chain and provides companies with a means to publicly communicate their commitment to helping brands avoid IVT throughout the ad ecosystem.

For the fifth year in a row, the 2021 TAG US Fraud Benchmark Study shows that TAG Certification does just that.

IVT Held Under 1% in TAG Certified Channels



■ = 0.86% IVT

The overall IVT rate in TAG Certified Channels was 0.86% -- the first time the benchmark was below 1% since these studies began in 2017. It's notable to see how far the industry has come from 2017 and 2018, when the IVT rates in TAG Certified Channels were 1.48% and 1.68% respectively

Ad Impressions in Study Double Over 2020



■ = 353 billion in 2020

■ = 704.5 billion in 2021

This progress occurred as the number of US ad impressions submitted for study by three global holding companies nearly doubled (up to 704.5 billion in 2021 from 353 billion in 2020).

Nearly 2X Fraud in Non Certified Channels



■ = IVT rates in TAG Certified Channels

■ = IVT rates in Non-Certified Channels

TAG Certified Channels IVT rates are approximately half the rates in non-Certified channels. Put another way, with fewer certified partners in the supply path, Non-Certified Channels have 76% percent higher levels of IVT than those seen in TAG Certified Channels, clearly demonstrating the value of working via a fully TAG Certified Channel.

Ad Buyers Comfortable with Sub-1% Fraud Rates



Marketers have found comfort in knowing that there is a path -- TAG Certified Channels -- where they can feel confident that there will be less than 1% IVT. Educated advertisers don't get hysterical over press stories about ad fraud botnets as they're confident that such traffic isn't in their campaigns or budgets.

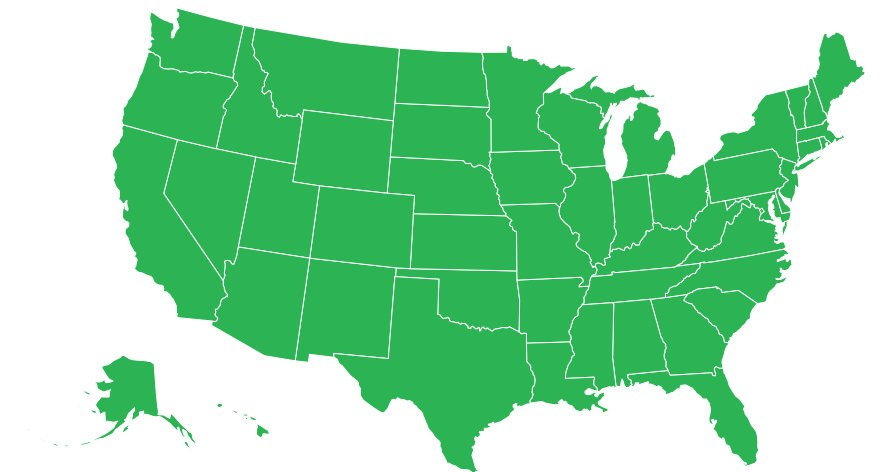
Study Background and Objectives

The digital advertising industry has long acknowledged that the fight against fraud requires a concerted effort, with all market participants working together to ensure traffic quality and brand safety. TAG was founded in 2014 to foster such confidence and trust in digital advertising by facilitating players across the supply chain in working together to ensure quality and brand safety.

TAG's Certified Against Fraud Program (i.e., TAG Certification) focuses on combating IVT across the digital advertising supply chain and provides companies with a means to publicly communicate their commitment to helping brands avoid IVT throughout the ad ecosystem.

Since 2017, TAG has collaborated with The 614 Group to monitor the industry's progress in reducing IVT by measuring the effectiveness of buying through TAG Certified Channels in markets around the globe.

Throughout 2021, The 614 Group conducted its fifth annual benchmark study (covering the first and second quarters of each year 2017-2021) to measure the quantitative impact TAG Certification has had in reducing fraud in actual campaigns across in the United States. The study also used interviews to assess the response taken by agencies when they discover IVT in a campaign in the region.



Research Methodology

This report uses the methodology established by The 614 Group in 2017 for the first US benchmark study and used in all TAG Fraud Benchmark studies undertaken around the globe from that point forward.

From January 1, 2021 to June 30, 2021, The 614 Group analyzed data from leading agency holding companies -- along with their MRC-accredited measurement vendors -- to collect and aggregate impressions for campaigns that were executed in the United States of America. These impressions included display media and video ads in desktop, mobile web and in-app environments, as well as connected television (CTV). The analysis did not use sampling of any kind, as 100% of the impressions received from the agencies who shared data were analyzed.

Upon receipt, all data was aggregated within a secure database in order to create the proper reporting. In addition, The 614 Group conducted a series of industry expert interviews with executives at agencies and others on background for qualitative perspectives.

Study Elements

<p>Inventory Type</p> <p>Desktop Display & Video</p> <p>Mobile Web Display & Video</p> <p>In-App Display & Video</p> <p>CTV</p>	<p>Types of Fraud Examined</p> <p>GIVT</p> <p>SIVT</p>	<p>Volume of Impressions Examined</p> <p>704.5 billion</p>
<p>Measurement Period</p> <p>1 Jan. 2021</p> <p>-</p> <p>30 June 2021*</p>	<p>Markets Examined</p> <p>United States</p>	<p>Data Contributors</p> <p>dentsu group^m</p> <p>IPG OMG</p> <p>PUBLICIS GROUPE horizonmedia</p>

* For the sake of continuity 2021 data was based on the first six months of the year, as it was for the past five years. In actuality, the full data set included more than one trillion impressions. Going forward, this analysis will move to a full year's worth of impressions to calculate the benchmark.

In conducting the study, The 614 Group used the categorization of the ad impressions by the agencies' measurement vendors, including DoubleVerify, Integral Ad Science (IAS) and Moat by Oracle Data Cloud (Moat). These three - ad verification vendors are all TAG Certified Against Fraud and hold accreditations from The Media Rating Council (MRC) that include IVT measurement for both SIVT and GIVT.

Fraud is a generic term, encompassing a range of nefarious activities. For the purposes of this report, the results focus on the broader metric of Invalid Traffic (IVT), which The MRC defines as, "traffic that does not meet certain ad serving quality or completeness criteria, or otherwise does not represent legitimate ad traffic that should be included in measurement counts."

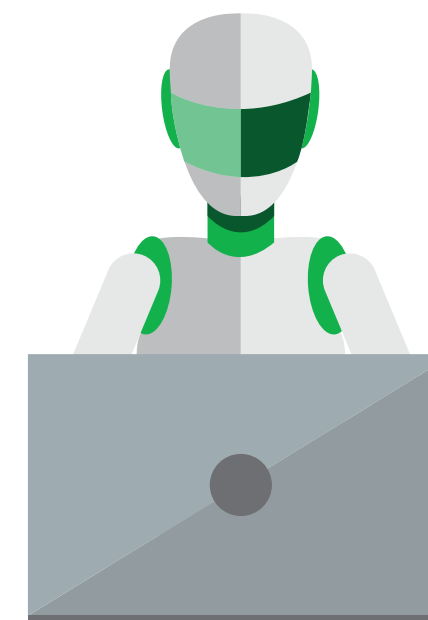
The MRC separates IVT into two categories¹:

General Invalid Traffic (GIVT): Includes traffic identified through routine and list-based means of filtration -- such as bots, spiders, other crawlers; non-browser user agent headers; and pre-fetch or browser pre-rendered traffic.

Sophisticated Invalid Traffic (SIVT): Includes traffic identified through advanced analytics, multipoint corroboration, human intervention -- such as hijacked devices, ad tags, or creative; adware; malware; misappropriated content.

In calculating fraud rates, the study combined both SIVT and GIVT in order to achieve a comprehensive result.

¹ [http://mediaratingcouncil.org/101515_IVT%20Addendum%20FINAL%20\(Version%201.0\).pdf](http://mediaratingcouncil.org/101515_IVT%20Addendum%20FINAL%20(Version%201.0).pdf)



The quantitative analyses examine both TAG Certified Channel transactions and transactions where each impression did not pass exclusively through TAG Certified Channels. To understand the two types of transactions analyzed herein, it is important to understand the definitions of a TAG Certified Channel and a Non-Certified Channel:



TAG Certified Channel (TCC)

Transactions that flow through channels in which multiple entities involved in the transaction – such as the media agency, buy-side platform, sell-side platform, and/or publisher – have achieved the TAG Certified Against Fraud Seal.

Non-Certified Channels

Transactions that flow through channels in which at least one entity involved in the transaction has achieved the TAG Certified Against Fraud Seal, but not enough entities for the channel to qualify as TCC. For example, in a Non-Certified Channel, the media agency would have achieved the TAG Certified Against Fraud Seal, but other key entities - the buy-side platform, sell-side platform, and/or publisher - would not have achieved the certification.

Quantitative Results

TAG Certified Channels studied in the United States have an overall IVT rate of just 0.86%. This marks the first year since the benchmark research has been conducted where the overall IVT rate is below 1.0%, a watershed moment.

The table below compares IVT rates in TAG Certified Channels with IVT rates for transactions in which only one entity in the supply chain has achieved the TAG Certified Against Fraud Seal (see definitions in the Research Methodology section). With fewer certified partners in those Non-Certified Channels, the level of IVT of 1.51% is nearly twice (+76% percent greater) the 0.86% rate in TAG Certified Channels. This comparison further illustrates the impact of TAG and working with TAG Certified partners to mitigate IVT.

IVT Rates: All Media

% IVT Found in TAG-Certified Channels	0.86%
% IVT Found in Non-Certified Channels	1.51%

**TAG-Certified Channels IVT
Rates: By Media Type Full Year**

		Number of Impressions	IVT Rate in TAG Certified Channels
Desktop	Display	147.5 billion	1.15%
	Video	23.2 billion	1.71%
Mobile Web	Display	114.8 billion	0.63%
	Video	18.6 billion	0.70%
Mobile In-App	Display	70.3 billion	0.83%
	Video	53.1 billion	0.48%
CTV	Video	17.4 billion	0.34%

Year-Over-Year Comparisons

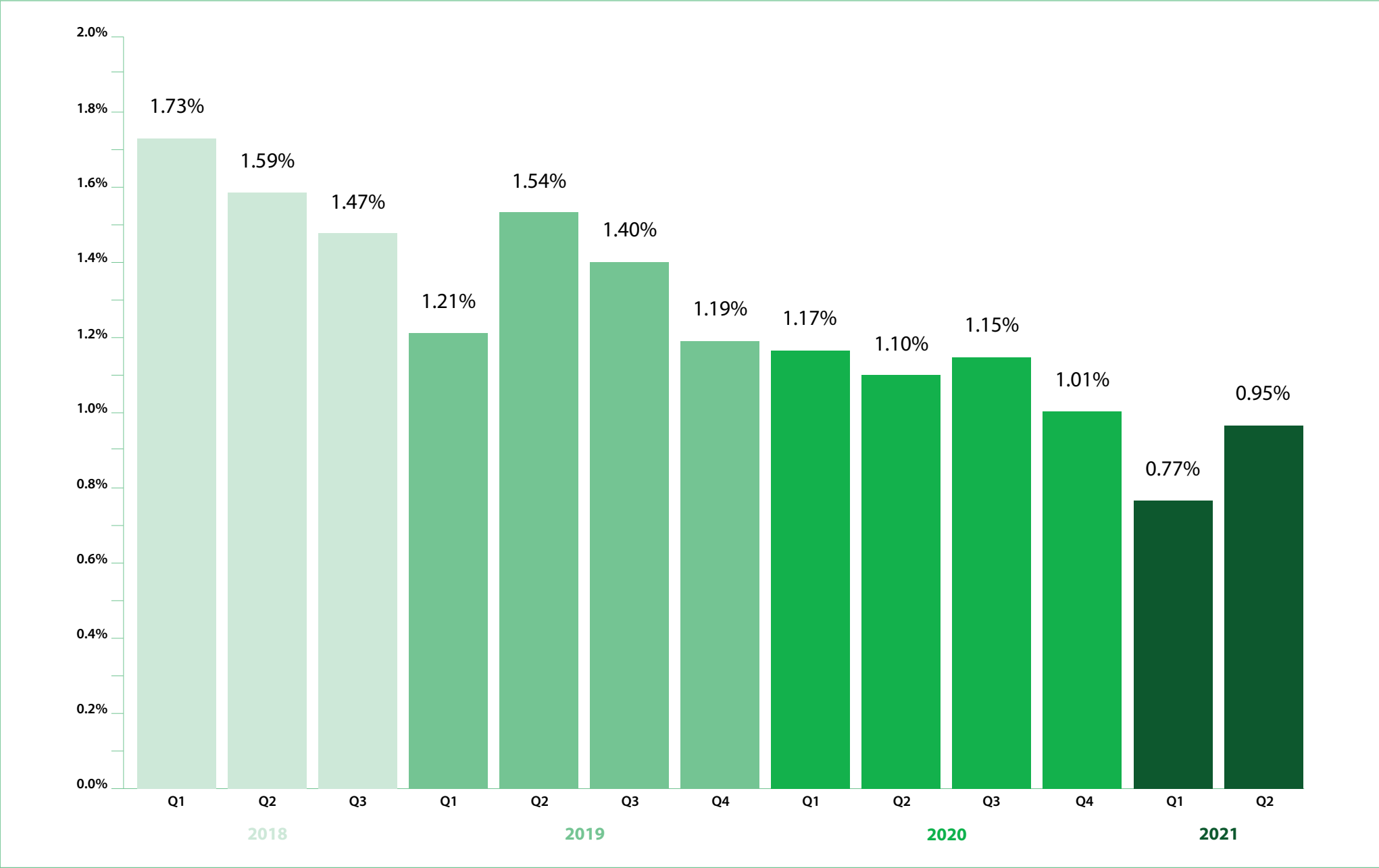
	2017	2018	2019	2020	2021
Region	US	US	US	US	US
Types of Fraud Measured	GIVT	GIVT/SIVT	GIVT/SIVT	GIVT/SIVT	GIVT/SIVT
Volume of Certified Benchmark	6.5 billion	75 billion	200 billion	353 billion	445 billion
Inventory Types Examined	Desktop Display Desktop Video	Desktop Display Desktop Video Mobile Display Mobile Video In-app Display In-App Video	Desktop Display Desktop Video Mobile Display Mobile Video In-app Display In-App Video	Desktop Display Desktop Video Mobile Display Mobile Video In-app Display In-App Video CTV	Desktop Display Desktop Video Mobile Display Mobile Video In-app Display In-App Video CTV
Number of Participating Agencies	3	5	6	6	6
Overall IVT Rates in TAG Certified Channels	1.48%	1.68%	1.41%	1.05%	0.86%

**Comprehensive Data on Fraud Rates
Within TAG Certified Channels By
Inventory Type**

	Media Type	Total Impressions	IVT Impressions	% GVT	% SIVT	% IVT
Overall	All	704,532,616,776	7,759,529,374	0.32%	0.54%	0.83%
Desktop	Display	147,532,729,415	1,694,770,821	0.42%	0.73%	1.15%
	Video	23,228,345,897	397,433,441	0.75%	0.96%	1.71%
Mobile Web	Display	114,872,410,815	722,894,727	0.26%	0.37%	0.63%
	Video	18,659,616,067	66,895,831	0.34%	0.36%	0.70%
In-App	Display	70,307,748,042	584,064,379	0.23%	0.60%	0.83%
	Video	53,107,224,399	256,660,885	0.17%	0.31%	0.48%
CTV		17,457,410,595	51,740,933	0.11%	0.23%	0.34%


TAG-Certified Channels IVT Rates By Media Type by Quarter

		2021 Q1	2021 Q2
Desktop	Display	1.06%	1.22%
	Video	1.32%	2.02%
Mobile Web	Display	0.56%	0.69%
	Video	0.54%	0.82%
Mobile In-App	Display	0.77%	0.89%
	Video	0.47%	0.50%
CTV		0.33%	0.35%



The qualitative portion of the research consisted of extensive interviews with senior executives at agency holding companies as well as other experts in measurement, advertising and technology to gain insights around the state of IVT identification, mitigation, and reduction. The purpose of the qualitative portion of the research is to supplement the impression-level data with a deeper understanding of requirements, accountability, and best practices in current use. The discussion guides were based on analyses of the last four quarters of impressions data provided by the holding companies, as well broader market trends.

We interviewed the following named senior-level executives, as well as others, on background:

			
<p>Olga O'Donnell SVP, Digital Ad Operations</p>	<p>Nayef Hijazi VP of Product Marketing John Ross Director, Product Strategy</p>	<p>Joe Barone Managing Parter, Brand Safety Julie Kandel Senior Partner & Safety Director, Brand Safety</p>	<p>Eric WarBurton SVP, Technical Account Management, and Platform Partnership Success</p>
			
<p>Craig Ziegler SVP, Product</p>	<p>Chandon Jones SVP, US Ad Operations</p>	<p>Manny Mock Associate Director - Platform Operations Anny Buakaew US Group Director - Platform Operations</p>	<p>Yale Cohen EVP, Global Digital Standards</p>

And a special thank you to Scott Cunningham of Cunningham Tech who assisted with the Data analysis.

Qualitative Analysis

Agencies Reference Client Acceptance of 1% IVT Rate as Validation of Their Efforts

Advertisers see the sub-1% benchmark in TAG Certified Channels as positive proof that their agencies -- and the broader industry -- are doing everything possible to ensure clean and safe traffic, and recommending best practices for fighting fraud such as combining pre-bid filtering and post-bid analysis to all campaigns.

In interviews, agency executives also mention that advertisers now understand that their partners have established dedicated teams, processes, certifications, technology and partnerships to fight the issue, and that the industry continues to be vigilant about looking for and combatting new forms of IVT as they arise. As a result, they have a high level of confidence in traffic quality.

With greater anti-fraud vigilance by the agencies and the industry at large, advertisers' attention is shifting to other issues, such as ensuring brand suitability settings are matching the tolerance of each client.

“

We don't have clients asking about fraud anymore. They see the 1% number over and over again, and they're aware of all the levers we're pulling on their behalf.

“

I will say that when we do everything right -- when you use an exclusion list, an inclusion list and use a TAG Certified supply chain, and apply pre-bid. When you do all that you can achieve a 1% fraud rate.

“

Just because we spend more time talking to clients about brand suitability and other issues, doesn't mean we can let down our guard in terms of fraud. We still need to focus on it 24/7.

In addition, interviewees mentioned that in the past, agencies had pointed fingers at the sell side for not doing enough to combat IVT and put pressure on them to get TAG Certification. Today, more publishers have achieved TAG Certification and the inventory flowing from SSPs to DSPs is now much cleaner.

Educated Advertisers Aren't Hysterical When They See Press Stories about Ad Fraud Botnets

[Despite reports of bot traffic increasing](#) as a result of lockdown-induced boost in online usage, advertisers realize that IVT doesn't hit their campaigns or their budgets when they choose to buy through TAG Certified Channels. Agency clients understand that the bulk of that bot traffic is filtered out by TAG Certified partners prior to reaching the DSPs, and the systems that agencies put in place -- including TAG Certification, pre-bid and post-bid filtration, and inclusion/exclusion lists -- remove the vast majority of IVT, even if it slips through a DSP's defenses. The quantitative data supports this assumption: TAG Certified Channels have less than 1% fraud.

“

In early 2021 there were a lot of bot schemes, and we saw the billion dollar fraud number. But in general, clients look to holding companies like ours and see the 1%, and they understand we're remediating against. They know they're not paying for fraud.

“

Years ago we used to hear about a bot in the space bubble that promoted a lot of client questions. But that doesn't happen anymore.

There is a Perception that SSAI is Creating a Walled Garden-Type Scenario in CTV

Agencies voiced concern that server side ad insertion (SSAI) -- the process of stitching an into a video stream in order to avoid an ad call that may be blocked by ad-blocking software -- has created a walled garden like scenario in CTV. SSAI makes it difficult to measure CTV inventory, as measurement companies can't run code on CTV devices in the same way they can on desktop and mobile. The result is less transparency into CTV inventory quality, and open questions about how much can be seen and measured within SSAI, as well as whether and how that potentially leads to fraud

“

Studios are applying SSAI to all devices now, not just CTV assets. This is creating new walled gardens, because it can't be measured.

“

SSAI has made it difficult for a measurement company to distinguish between content and ads.”

“

SSAI represents a unique challenge, you can't run code on devices like you can on a desktop or a mobile device. The fact that you can't run code on it is the fundamental challenge with connected television.

While CTV remains a large IVT concern of media practitioners it is encouraging to hear that the industry is making strides to solve the issue. More details can be found in the conclusion.

Conclusion

Much has changed since the first TAG Fraud Benchmark Report was published in 2017, and those changes are nothing short of remarkable. Back then, market participants regularly struggled with high levels of IVT in their client campaigns, in some instances as much as 50% of traffic in a given channel was deemed suspect. In the early years of interviews there were acrimonious comments, from all sides, claiming their partners weren't doing enough to tackle the problem. In some instances, agencies said their clients questioned why they needed to pay for anti-fraud filtering.

In the intervening years, however, more companies across the ecosystem have achieved TAG Certification, and it is now possible to run entire campaigns through fully TAG Certified Channels, giving advertisers high confidence that such campaigns will include less than 1% IVT. Additionally, widespread adoption of pre-bid filtering and post-bid analysis, global blocklists and information sharing has greatly altered the IVT conversation.

Today, advertisers are confident in the ecosystem because they feel that adequate checks and balances for ensuring clean traffic are now in place, and that fraud is actively monitored and controlled on a 24/7 basis. With less than 1% fraud now attainable, advertisers and agencies can further focus their attention to other issues, such as brand suitability and fraud mitigation in CTV.

With cord-cutting and streaming growing ever more popular, ad-supported CTV viewing options and audiences are growing. Ad fraud also follows eyeballs and dollars, thus fully transparent fraud measurement and mitigation in CTV are gaining in importance. The industry is already working on solutions to the challenges of CTV transparency through TAG and other industry organizations.

One example of this is TAG's recent work with the IAB Tech Lab on technologies to increase assurance in SSAI environments. Through signed-billing notifications, part of the Ads.Cert v2 specification, SSAI vendors and their partners will be better able to establish confidence in their transactions. Partners who receive signed billing notifications will be able to enrich that data with information from TAG about their vendor partners' TAG verification and certification status, adding further confidence to the transaction.

TAG was founded on the belief that by coming together the industry can tackle difficult issues. This year's Benchmark Report validates that belief.





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