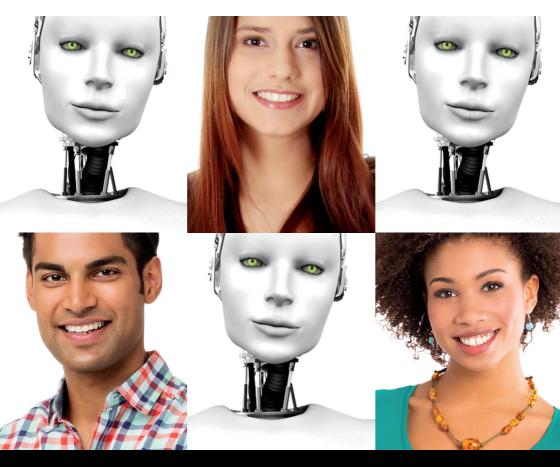
NON-HUMAN TRAFFIC WHY IT MATTERS AND WHY YOU SHOULD CARE





www.comscore.com/NHT

IF YOUR AUDIENCE AND VIEWABILITY MEASUREMENT HAS NON-HUMAN TRAFFIC,

YOU'RE GETTING SKEWED.

comScore can help.

YOU PROBABLY ALREADY KNOW that ad fraud

and non-human traffic (NHT) are real issues. If an ad isn't reaching a real person, *that's a real problem*.

BUT WHAT YOU MIGHT NOT KNOW

is that NHT undermines the integrity of every other performance and effectiveness metric. If you aren't taking NHT out of your measurement, your KPIs are infected and *your results are probably wrong*.

WHAT WE WANT YOU TO KNOW

There are countless approaches to NHT removal that aim to help, but not all solutions are equal. Sometimes what's designed to help can actually hurt.

The bottom line: Measuring metrics in silos – as many solutions do – is inherently flawed. Aside from making your life more complicated, it can wreak havoc on all aspects of your effectiveness – and that matters.

NHT PRIMER/ PAGE 06BEYOND THE BOTWHO BENEFITSWHO GETS HURT

1

4

2 NHT + AUDIENCE / PAGE 08 WHY IT MATTERS KNOW THE RISKS WHAT'S THE DIFFERENCE

3 NHT + VIEWABILITY / PAGE 14

WHY IT MATTERS KNOW THE RISKS WHAT'S THE DIFFERENCE

NHT + AUDIENCE + VIEWABILITY / PAGE 20

WHY IT MATTERS KNOW THE RISKS THE COMSCORE DIFFERENCE

NHT PRIMER

NHT in anything contaminates everything.

The point is simple, but the topic of NHT is not. Luckily, measurement can help. A number of vendors have created their own technology to identify NHT, offering a range of capabilities. But, as with any highly-skilled function, the difference between good and better can have radical repercussions.

comScore defines **NON-HUMAN TRAFFIC** as traffic to a website that is generated – either intentionally or unintentionally – by invalid sources. Using our unique Triple Detection Technology, vCE® goes beyond the basics by deploying advanced NHT filtration to report MRC-accredited impressions.

comScore measures the deepest, darkest places of the web to catch the most sophisticated types of NHT. Here are just a few.

Traditional Bots

Systems designed to mimic human users and drive up ad impressions

Adware & Browser Hijacks

Software that makes html or ad calls without users' knowledge

Ad Injectors

Program that maliciously inserts ads into websites where they don't belong

Domain Laundering Low-quality site that impersonates a high-quality publisher to steal ad sales

Data Center Traffic

Traffic originating from data center devices without human users

Advertisers, agencies and publishers alike feel the pain of NHT.

THE BAD GUYS GET RICH

Who benefits from NHT? Some NHT is innocent, but much of it is created intentionally to extract money from the advertising industry. Bad actors add to NHT, raking in the monetary benefits of these ad impressions – even though the ads never reach a human audience.

EVERYBODY ELSE GETS HURT

While most premium publishers maintain low levels of NHT, even they can fall victim to the schemes of bad actors, especially as they increasingly move inventory to programmatic. Fraudulent and other invalid traffic hurts parties on both sides of the table, degrading the value of the advertising industry as a whole.

Media Buyers

Wasted ad spend and decreased ROI

Lack of transparency into performance

Missed opportunity for ads to have an impact

Media Sellers

Lack of trust in value of ad inventory

Damage to relationships with media buyers

Loss of revenue to 'long-tail' sites on exchanges

Advancing the standard.

vCE ad validation is MRC-accredited, which includes advanced NHT filtration techniques that go above and beyond the basics.

WHY NHT MATTERS IN AUDIENCE MEASUREMENT

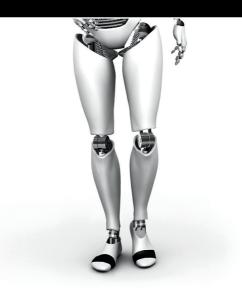
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If a bot dresses up as your target demographic, *should it be counted* as in-target?



No! But the real answer will shock you.

Not all audience delivery measurement removes NHT from its reporting, meaning your GRPs may be infected.



In TV measurement, you would never allow a bot to count. Digital should not be any different.

WHY YOU SHOULD CARE

When in-target impressions are mixed with non-human impressions, it is impossible to get a true sense of the campaign's reach, frequency and GRPs. Making matters worse, these metrics often feed into effectiveness, ROI and Market Mix Model calculations, where *bad inputs equate to bad outputs*.

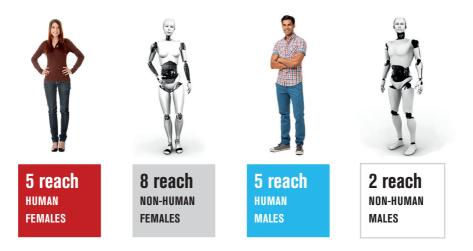


HOW NHT CONTAMINATES YOUR TARGET AUDIENCES

NHT can infect demographic reporting, which means you may be acting off of audience data that is inaccurate and misleading. Sometimes NHT infects audiences through obfuscating browser data, while other times it is included in the modeling techniques used by some vendors. Removing NHT from audience measurement is critical, but not everyone does it right.

Consider the below example of a campaign trying to reach Human Females.

OUT OF 20 impressions delivered:



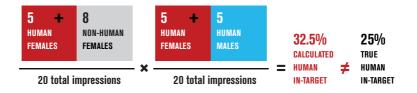
You'd expect your Human Female In-Target audience result to be 25% (5/20), right?

With clean, unduplicated measurement, it is easy to see that 5 of the 20 impressions, or 25%, are delivered in-target. However, if you used a solution that didn't remove NHT from your audience data, your in-target number would be much higher – and much less accurate.

Audience delivery metrics and NHT removal must come from a single tool in order to be accurate.

KNOW THE RISKS

Less sophisticated approaches might try to solve for this by simply applying an overall NHT rate (50%) to an audience that includes both human and non-human females (13/20).



That's a 30% increase, which is a big difference when it comes to diluting KPIs – and it will make the campaign lift for the group a lot lower. Plus, buyers will be paying for ads that never reached their audience.

WHAT'S THE DIFFERENCE

comScore vCE provides **unduplicated reporting of human audiences in a single tool** to give you greater confidence that ads reach their intended consumer – and that effectiveness metrics give the credit deserved. vCE reports a MRC-accredited **Human GRP**, which means you can focus on reaching humans rather than counting bots.

NHT is tricky.

Accounting for it in audiences shouldn't be.

PAGE 12

IF YOUR MEASUREMENT PROVIDER IS REPORTING UNREALISTICALLY HIGH VIEWABILITY,

YOU'RE LIKELY PAYING FOR FRAUD.

Let's take a closer look.

WHY NHT MATTERS 3 IN VIEWABILITY MEASUREMENT

If an ad is served to a bot, should it be counted as viewable?



No! But the real answer might blindside you.

Not all validation measurement vendors remove the same level of NHT, which causes discrepancies, confusion and incorrect conclusions.

Failure to remove NHT upfront creates a large discrepancy in viewability rates.

WHY YOU SHOULD CARE

When in-view impressions are mixed with non-human impressions, it's not only impossible for advertisers to get a true sense of viewability for their campaigns, it's impossible for publishers to identify problems that may put their reputations at risk. Because different measurement approaches can produce wildly different results, it is critical to *make sure viewability measurement is thoroughly removing NHT*.



HOW NHT CONTAMINATES YOUR VIEWABILITY

Consider the example below of two viewability measurement providers, *one of which applies robust NHT filters* (Measurement Provider A) and *one of which does not* (Measurement Provider B).

COMPARE reported viewability:

	Served Impressions	Excluded as NHT/ Fraud	Impressions post-NHT filtration	Disposition: Viewable	Disposition: Not Viewable	Reported Viewability
Measurement Provider A	15,000,000	5,000,000	10,000,000	8,500,000	1,500,000	57%
Measurement Provider B	15,000,000	2,000,000	13,000,000	11,050,000	1,950,000	74%

The 74% viewability seems appealing, right? But it is an illusion.

With clean, unduplicated measurement, you know that only 57% of ads had the opportunity to be seen. However, viewability differs and NHT is accounted for at varying levels, even among accredited vendors. Some vendors only remove a little NHT, and others may not remove NHT at all. If the vendor does not provide clean, unduplicated viewability and NHT measurement, the data is going to be infected and the results will be wrong. Viewability measurement must remove NHT to provide the opportunity to see.

KNOW THE RISKS

Less sophisticated approaches to viewability measurement that do not appropriately remove fraud contribute to the confusion around viewability discrepancies. The MRC requires accredited measurement providers to count non-human impressions as non-viewable. However, differing approaches leave room for error – costing advertisers money, diluting campaign ROI and opening publishers up to damaged relationships and make-goods.

WHAT'S THE DIFFERENCE

Using our advanced NHT filtration, comScore vCE delivers *viewability numbers that are free from even the most sophisticated NHT*. This means your viewability is clean and represents those impressions able to impact the consumer and any associated campaign evaluation.

NHT is tricky.

Accounting for it in viewability shouldn't be.

PAGE 18

IF YOUR AUDIENCE AND VIEWABILITY ARE HUMAN, BUT YOU'RE ACCOUNTING FOR THEM SEPARATELY

YOU'RE DUPING YOURSELF.

comScore delivers unduplicated measurement so your in-target audience can always come clean.

WHY NHT MATTERS IN HOLISTIC MEASUREMENT

When you know ads are viewable to a human consumer in-target, it makes both audiences and advertising *more valuable*.



Get the right answers.

comScore can help you keep it real.



Advertising can't be evaluated on how well it elicits a feeling, emotion or behaviour unless real humans can see it.

KNOW THE RISKS

Even if you know that your audience and viewability numbers are human, if you're accounting for them separately, *there is still room for doubt:*

The ad impression is human and viewable - but to whom?

The ad was served to a human in the audience target - but could they see it?

THE COMSCORE DIFFERENCE

comScore combines audience, viewability and NHT into a single unduplicated measure of the impressions that are viewable to a human within a target audience. This means *a clean number of impressions with the opportunity to have an impact*. From there, all other effectiveness analyses can take place with accuracy and precision.

We have integrated anti-NHT technology across our products, and we continue to develop enhanced capabilities that set higher standards for the industry. Our sophisticated NHT detection gives media buyers, ad networks and sellers a trusted method to better protect their traffic and campaigns from NHT threats.

NHT in anything contaminates everything.

Luckily, advanced NHT measurement can help.

KNOW THE REAL VALUE

Contact us today to learn more about the difference that sophisticated comScore NHT, audience and viewability measurement can make *to your bottom line*.

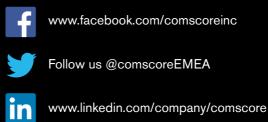
LEARN MORE www.comscore.com/NHT

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PAGE 22





WE MAKE AUDIENCES & ADVERTISING MORE VALUABLE



comScore validated Campaign Essentials[™] (vCE®) is a holistic ad and audience delivery validation solution that provides deep campaign insights, in-flight reporting and daily alerting.

- Used by media buyers and sellers
- Enables in-flight campaign management and optimisation
- Evaluates audience delivery, viewability, brand safety, geographic delivery, engagement and non-human traffic
- Behavioural segment reporting
- · Reports data by publisher, placement and creative
- Enables increased campaign effectiveness and decreased waste



comScore validated Media Essentials[™] (vME[™]) is a comprehensive measurement solution that evaluates ad inventory across a site or network of sites for strategic pricing and packaging.

- Used exclusively by media sellers
- Measures ad inventory across a site or network of sites
- Evaluates audience, viewability, engagement, geographic delivery and non-human traffic
- Reports data by ad slot, site section and creative size
- Enables increased revenue by maximising high-value inventory

comScore Industry Trust[™] is a multi-phase initiative designed to enable trusted transactions in programmatic environments.



- Used by media buyers and sellers
- Empowers buyers to find quality inventory in programmatic
- Allows sellers to differentiate their quality inventory
- Provides viewability, non-human traffic, MMX[™] and Video Metrix[®] rankings
- Enables transparency in the marketplace for strategic buying and accurate campaign evaluation



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