

A Guide to Authenticated Audiences & Universal IDs

Part of IAB Canada's "Moving Towards Cookie Independence Series"



IAB Canada Committee Industry Paper

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Introduction

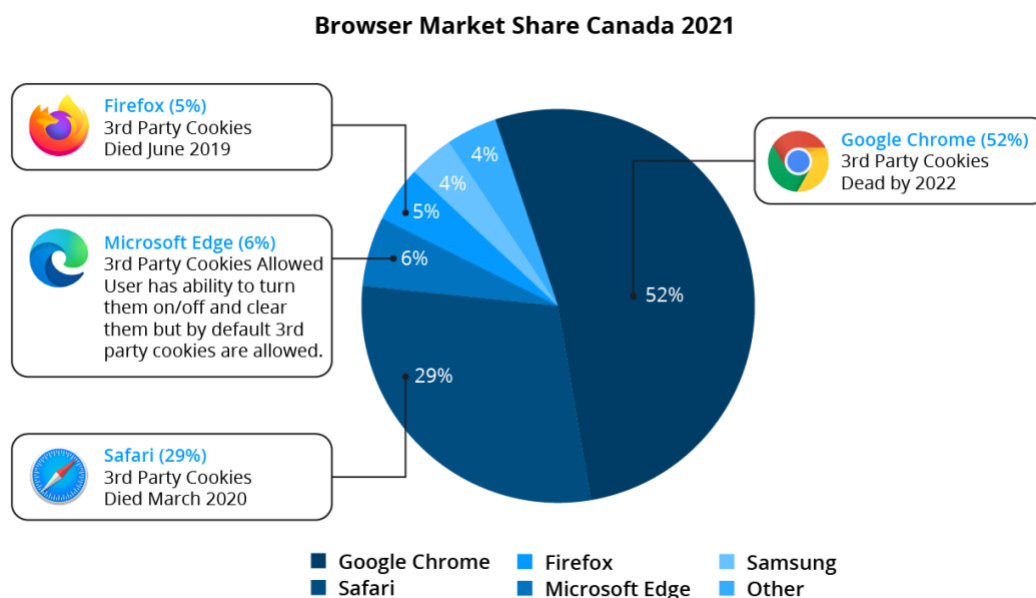
Rapid developments in the online advertising eco-system over the past several years and the impending demise of the third-party cookie, have put a renewed spotlight on audience targeting and approaches to addressability. One of the key methods advertisers will leverage to reach addressable audiences is the use of user authentication and/or the assigning of a Universal ID.

This industry paper has been developed by IAB Canada as an integral part of the [“Moving Towards Cookie Independence”](#) series. It is designed to explain authenticated audiences, how Universal IDs work and how brands can use technical solutions to reach their audiences in this exciting and revitalized way. Universal IDs are now an essential part of the cookieless tool kit.

Moving Towards Cookie Independence

The online advertising eco-system is changing. Over the past two years, we have seen rapid third-party cookie deprecation as browsers are responding to increased regulatory pressures to address consumer privacy rights. The industry has been put on notice and advertisers now face an inevitable race towards consented and authenticated first party audiences as the broad reach once offered by third party solutions fade away.

In this new age of the internet, advertisers need privacy-first solutions to communicate with their audiences at scale, while preserving the ability to measure success and optimize against metrics like frequency of ad exposure and reliable attribution models.



Source: StatCounter April 2021

Global efforts, such as IAB’s Project Rearc, have been working hard to re-architect the infrastructure for online advertising and from these efforts we find ourselves with three core methods to reach addressable audiences:

Three Ways to Reach Addressable Audiences

Universal IDs	Contextual Signaling	Cohorts
Industry Estimates 30% Maximum total Audience	Industry Estimates 80-90% of addressable audience	Industry Estimates 80-90% of addressable audience
Individual IDs for: 1. Consented, authenticated 2. Consented, Inferred	<ul style="list-style-type: none">• Mapping First party data to predictive contextual models• Using standard taxonomies• Dynamic contexts	<ul style="list-style-type: none">• Aggregated groups of 1,000+ segments• Transient/dynamic

When we look at the various methods of addressability being built out for the next generation of digital advertising, one thing is certain: advertisers will need to fully understand and leverage all three. Each represents an important part of the portfolio of opportunities for advertisers to reach audiences in a post-cookie ecosystem.

Among them, the use of Universal IDs is one of the most interesting and has the most “unknowns” attached to it. With only 20-30% of online audience estimated to be represented in this segment and an onslaught of developers looking to capitalize, this space could easily become overly saturated and competitive.

In this guide we will explore various concepts and business models that will inevitably make up the Universal ID landscape. The space is dynamic and there are different layers, concepts of function and interoperability that are currently being innovated upon.

Other guides published in the IAB Canada series entitled “Moving Towards Cookie Independence” include cohort and contextual advertising methods, can be found in the [resources section](#) of the IAB Canada library.

What is an Authenticated Audience?

Universal IDs form the basis of “authenticated audiences.” An authenticated audience is a group of users that have gone through some sort of validation process. In the digital world, user authentication occurs through a log-in process. For instance, when a consumer logs into a website with their email address, an identifier is created based on a hashed and salted or anonymized version of that email. For added security, the identifier regularly regenerates itself.

For transparency and added consumer control, at the point of login, the consumer is presented with an outline of why the identifier is required (what the ID will be used for) acting as the value exchange for relevant advertising. At this stage, consumers will also set their consent preferences, indicating permissions for how their data may be shared. This consent process can be managed via a Consent Management Platform (CMP); CMPs are an important piece of ad tech that facilitate and communicate consent preferences. To access IAB Canada’s CMP Resource page [click here](#).

Universal IDs not only eliminate the need for third-party software to sync user identity information, but they also allow ad tech to better target advertisements to the right users.

They can be created using first-party cookies from sources such as internal CRMs or offline data coming from customer management software databases (CMS), and may be shared between publishers and brands, acting as a common language across the ecosystem. It is important to note that first-party data is something that content publishers and advertisers collect directly from their users via subscriptions, surveys, feedback, etc.

Considered a more standardized and privacy-first solution than the third-party cookie, Universal IDs are also not to be confused with first-party cookies. The universal ID is a user identifier (user ID) typically created by the ad-tech consortium/company to provide a shared identity to identify the user across the supply chain without syncing cookies. In other words, first-party data (CRM) and offline data can be used to create universal IDs, but they are not the same thing.

Publishers may create their own site-specific user ids, but not universal IDs.

According to eMarketer, US advertisers will spend \$2.6 billion on identity solutions by the end of 2022.

A Myriad of ID Solutions in the Marketplace

Given the importance of innovating against cookie deprecation, we have seen the emergence of multiple ID solutions launch with many in development stages.

For the purposes of exploring some of the nuanced approaches being taken by Universal ID providers, the below examples are solutions currently available in the marketplace. It is important to note that one solution is not necessarily better than the other. Rather, each provider has slightly different components and features that should be carefully examined. At this point, all of these solutions could be viable in the long-term.

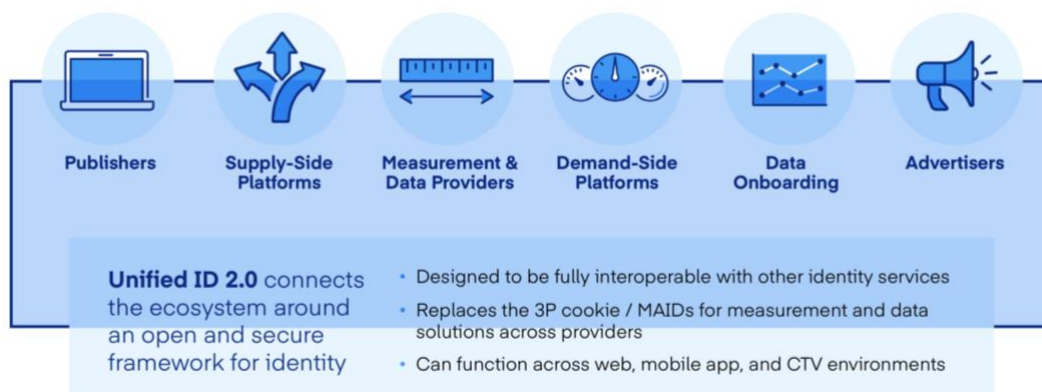
To ensure a competitive marketplace and continued innovation in this space, IAB Canada strongly believes that some form of interoperability is imperative, and that an open-source solution which serves the industry is best.

The below three solutions (from the many providers available) outline key differences in the varying service offerings. They have been selected specifically to demonstrate the variances in methodologies.

Unified ID 2.0

An open sourced, email-based identifier, with an independent governing body that follows IAB Tech Lab Guidelines

The fabric for identity across the ecosystem



theTradeDesk

The Unified ID (UID) 2.0 will rely on encrypted email addresses from opted-in consumers following the guidelines outlined by the IAB's [Project Rearc](#). This ID solution is open sourced and will be interoperable throughout the eco system.

Although Unified ID 2.0 was originally developed by the Trade Desk, it is not exclusive to the Trade Desk. Instead, it is a set of open frameworks being built in collaboration with leading industry associations and partners such as: Index Exchange, LiveRamp, Nielsen, and Criteo.

Jeff Green, CEO of the Trade Desk, described the solution as one that “will create a co-op for the open internet” so users don’t have to log into every website they visit and that “this will be an open ID that replaces cookies and upgrades privacy and controls for consumers so that it preserves relevant advertising.”

UID 2.0 will function as a single sign-on module that operates across the open web enabling single-click logins for signed up users.

[Prebid.org](https://prebid.org) will operate UID 2.0 and make sure that it remains open source. Prebid is the industry body that oversees Prebid Server, an open-source server-to-server header bidding solution and is one of the most popular open-source header bidding wrappers. In addition to handling the hardware and software infrastructure for UID 2.0, Prebid will also handle the email encryption and decryption process.

As operator, Prebid will manage the technical backbone on which Unified ID runs, including hardware and software. The Trade Desk, who first created Unified ID, relinquished oversight of the solution and of the standard to Prebid in order to create a truly open-sourced solution.

The Trade desk also recently announced that it will be contributing the UID 2.0 source code to the Technical working group of the Partnership for Responsible Addressable Media (PRAM) being run by the IAB Tech Lab. This means that the industry will have full ownership of the ongoing development of UID 2.0, and anyone can propose updates and changes to the project. The IAB Tech Lab’s Addressability working group and Privacy and Rearch commit group will guide the technical development of UID 2.0 with the Trade Desk, remaining an active contributor while working with industry peers to drive adoption.

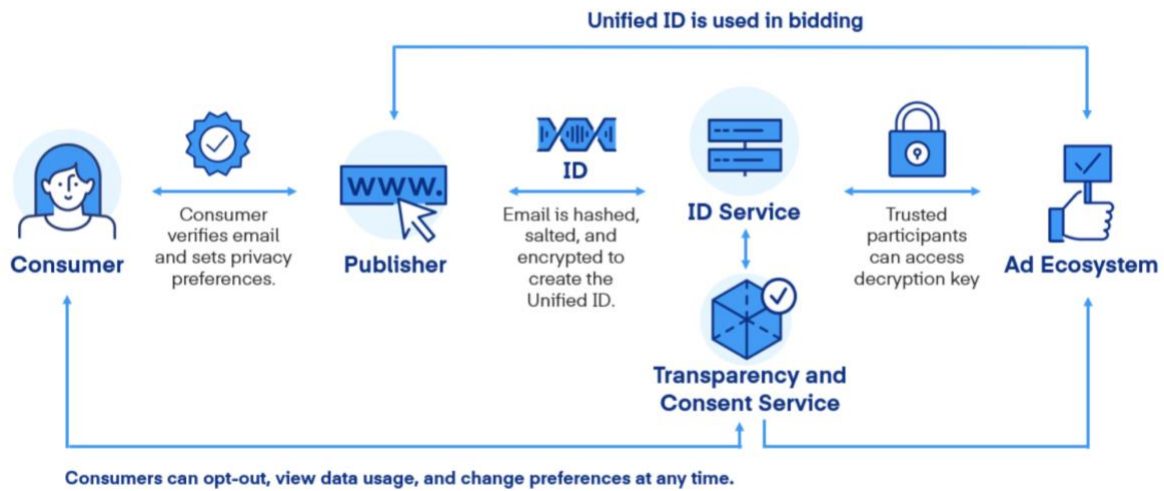
It is estimated that the UID 2.0 will be in market before the work coming out of Google’s Privacy Sandbox.

Universal ID 2.0 in summary:

- **Non-proprietary:** All constituents in the advertising ecosystem that abide by a code of conduct can access it.
- **Independent Governance:** It will be operated by unbiased third parties with a transition expected in mid-2021. Prebid.org will be provided with the working code and framework during the transition.

- **Secure:** It leverages multiple layers of security, cryptography and encryption to ensure user data is secured.
- **Open Sourced:** The related code will be open sourced.
- **Interoperable:** It is accessible to all constituents in the advertising ecosystem – including DSPs, SSPs, data providers, measurement providers and identity services - who abide by the code of conduct.

An open and secure approach to identity



theTradeDesk

ID5

ID5's independent ID solution is known as [Universal ID](#) (not to be mistaken for UID 2.0). While Universal ID also aims to replace third-party cookie-based targeting and the inefficiency of cookie syncing, it uses both deterministic and probabilistic methods to do so.

ID5 enables publishers and advertisers to create and distribute a shared 1st party identifier to the entire ecosystem to enable targeting, frequency capping, measurement, and attribution. Ad tech platforms connect with ID5, decrypt the Universal ID and are able to recognize users. This solution respects the users' and publishers' preferences throughout the advertising value chain.

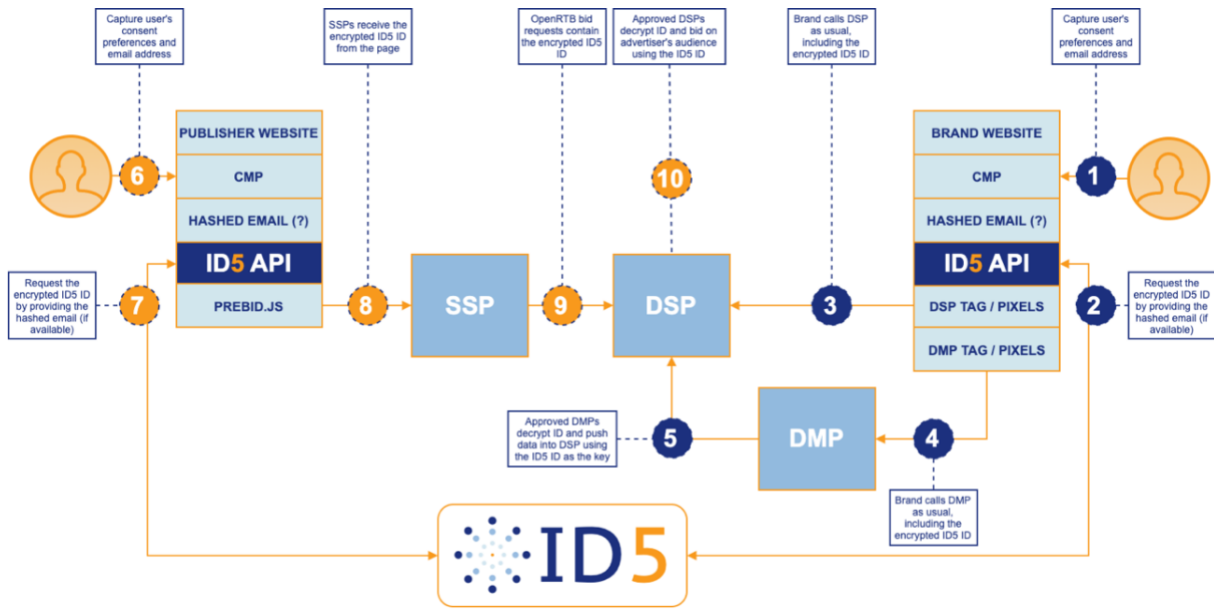
To ensure that Universal ID values are consistent across the different websites distributing them to the advertising ecosystem, this solution uses deterministic or probabilistic methods, depending on what signals are available. By combining both methods, this is a solution that is accurate, scalable and suitable for all publishers no matter the size of their authenticated traffic.

When websites are able to provide "hard signals" such as hashed email addresses or login / SSO IDs, ID5 uses them to anchor consistent identifiers across the websites that have collected them.

When "hard signals" are not available, ID5 processes "soft signals" to infer the uniqueness of a user across websites. This algorithm runs on a combination of information, including the IP address, user agent string, page URL and timestamp of the visit.

As an independent tech provider, ID5 is a neutral provider. According to a company spokesperson "We don't buy or sell media or data. Our only focus is to provide the best-in-class identity solution to power digital advertising. This focus frees us from any conflict of interest with clients and partners and allows us to build a strong and scalable identity business."

This solution is monetized but free to publishers and advertisers and available for a fee to ad tech providers.



ID5 in summary:

- **Independent Solution:** ID5 does not buy or sell any media inventory and remains free of conflicts of interest.
- **Uses both Probabilistic and Deterministic Methods:** ID5 uses hard signals (such as hashed emails when available) and soft signals (such as IPs, URLs, timestamps, user agent strings) providing privacy protection and scale.
- **Interoperable:** ID5 enables publishers to create and distribute a shared 1st party identifier to the entire ecosystem. Ad tech platforms connect with ID5 and decrypt the Universal ID.

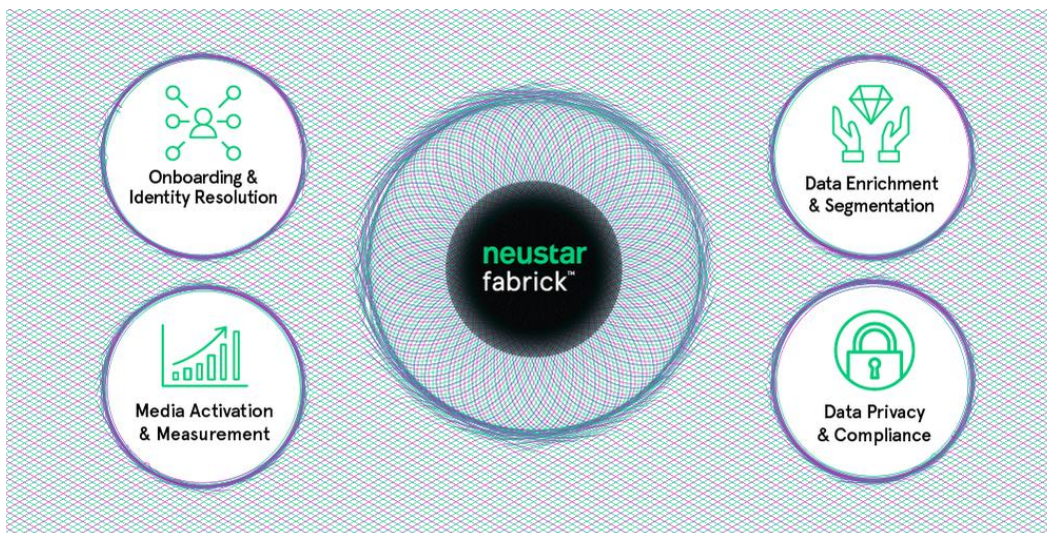
Fabrick ID by Neustar

In December 2020, Neustar launched [Fabrick ID](#), a deterministic identifier designed to replace third-party cookie targeting. Publishers can use Neustar’s API to make calls with the information they have about users, such as a hashed email address or phone number. Neustar returns the API call with a token (Fabrick ID), which publishers can then share with Neustar’s demand-side and advertising partners to sell inventory programmatically on the open exchanges.

Connections made using the Fabrick ID allow limited use, which means that a token only works for the partner that it was generated for and can only be used for securely transmitting the data. The IDs also expire in seven days, making them more privacy friendly than cookies.

Neustar is contributing to the design of UID 2.0 and integrating it into its offerings, including its multitouch attribution and marketing mix modeling products. There will also be interoperability with Fabrick ID.

That means that Neustar will be able to “offer partners and both advertiser and publisher clients the ability to generate unified IDs within the UID 2.0 framework and to pass them into the bid stream or buying platforms”, said Bill Michels, GM of product at The Trade Desk.



Fabrick ID by Neustar in summary:

Token Based: Neustar returns the API call with a token

- (Fabrick ID), which publishers can then share with Neustar’s demand-side and advertising partners to sell inventory programmatically on the open exchanges.
- **Expiration Date:** 7-day expiry.
- **Limited Use:** A token only works for the partner that it was generated for and can only be used for securely transmitting the data.

There are an estimated 50-80 ID solutions in-market today. Once the sun sets on cookies, we may see some significant acquisitions and consolidation of the landscape. The biggest challenge the eco-system currently faces is scale and interoperability. IAB Tech Lab and Prebid.org are working on both, by way of developing technical standards and protocols. Their respective recent announcements are promising for the industry as it looks to find scaled approaches to addressability.

The Value of an Authenticated ID Solution

Although ID solutions will not be the only way to address audiences for marketers, it is very likely that most will use this form of addressability if they have not already started. Following are some key benefits that explain why this approach to addressability is attractive to advertisers:

1. Elimination of Data Loss and User Duplication

The greatest advantage to using a universal ID comes from the decrease in data loss and user duplication that often comes from syncing cookie information across multiple platforms. Universal IDs do not need to rely on third-party syncing solutions to aggregate identity information. Instead, they can pull data from any source online or off to provide a definitive ID match.

Some examples of this include customer purchases, website activity and social media accounts.

The value of authenticated user data is much higher to a marketer than unauthenticated user data. When data is authenticated, information from multiple sources can be linked to create a single-customer view, leading to better consumer attraction and retention strategies.

2. Deeper Customer Relationships and Increased Value exchange

When a publisher or marketer uses a universal ID's solution, they are able pull information from their own data sources (including CRM) allowing them to cultivate even more premium (and further authenticated) customer profiles. To further enrich these profiles, marketers should consider initiatives such as loyalty programs, as they act as powerful value-add tools to entice users to opt-in more freely. There needs to be a true value exchange.

3. More Effective targeting

Both publishers and marketers benefit from Universal IDs' ability work seamlessly between multiple devices. For example, if a user accesses a platform or site on their desktop and then uses their smartphone to access the same property, they will be easily identified and not duplicated.

Most Universal IDs are created based on deterministic matching (unlike cookies that are based on probabilistic) allowing publishers and advertisers to display the "right" ads to consumers based on preferences and behaviour.

4. Higher Revenue Potential

A universal ID-based system will be able to command higher ad prices than legacy cookie-syncing systems because of their ability to accurately match and target users. Authenticated user information drives deterministic ad matching that outperforms older probability-based models. An attractive feature of this method will be the ability to frequency cap at the user-level thereby eliminating the possibility of overdelivering to the same user and as a result diminishing the risk of wasting media dollars. This is certain to drive investment in its favour.

A better solution for the open internet



Consumers

will retain access to quality, free content while enjoying better privacy controls



Advertisers

can continue to leverage their data at scale across platforms and the open internet



Publishers

will profit from relevant advertising, maintain independence, and provide a consistent privacy experience for their audience

 theTradeDesk

A Privacy First Solution

Privacy concerns are the main impetus for the death of the cookie. With an onset of increased privacy legislation across the globe and citizen outcry for increased transparency and consent, the third-party identifier has lost its place in the ecosystem.

Universal IDs work to address the following privacy concerns:

- 1. Anonymization** A person's UID does not contain any personal information that can lead to identification i.e.: be tied to an email address or any other identifier. A user is truly anonymous making this an appealing solution to both citizens and regulators.

- 2. Citizen Control** When a person visits a publisher's site and gives consent for that publisher along with their digital ad partners to use their data for various purposes (like ad targeting), those choices will be collected in the publisher's CMP.

Once the information is read by the CMP, it is stored in a first-party cookie and passed to the ID provider. That provider will know whether there is permission to create an ID for that user for the purpose of ad targeting. Users can log-in and monitor their privacy settings, adjusting how their personal data is being used. The CMP plays a key role in providing citizens full control of their data use by allowing consumers to alter and monitor their preferences on an ongoing basis.

- 3. Greater transparency** When consumers opt-in to an ID solution, publishers and advertisers can provide a more personalized user experience. Consumers are often given access to free content because of the ad revenue generated on their site. This value exchange is clearly communicated using CMPs and other privacy first tools allowing consumers to clearly see what their data is being used for and what benefits they receive from sharing.

What's Next

While moving forward and developing new solutions to fill the gap that the death of the cookie will inevitably leave behind, digital advertisers need to acknowledge that consumers want greater transparency and control when it comes to their personal data. Regulators are responding by tabling increasingly stringent legislation across the globe to protect citizens. These two realities mean that any party involved in data collection and use, will face higher levels of responsibility, and that compliance with new laws will be mandatory to avoid significant fines.

More importantly, instead of trying to find "work arounds" recreating what was once available, the digital advertising industry needs to turn their focus to new and more sustainable solutions that protect consumers and allows marketers to address audiences

in a measurable way. It is time to pivot and to cultivate first party data in a new way creating real value exchanges for consumer information.

Advertisers need to look at all of the different options for addressing audiences, appreciate their own unique benefits and embrace the cookieless world with a diversified portfolio approach.

5 Key Take-Aways

- 1. Universal IDs are a critical access point to reaching addressable audiences' post-cookie.** An estimated 20-30% of future audiences will be authenticated, making the Universal ID one of the addressability strategies that should exist in every marketer's toolkit.
- 2. The Universal ID marketplace is a vibrant and competitive landscape.** The marketplace is sure to be introduced to multiple solutions all with varying components and features. As standards become clearer and the ways in which the IDs will be incorporated into exchanges becomes better established, we will see increased innovation and some consolidation in the market.
- 3. Not all IDs are tied to Personal Data.** Some solutions are less reliant on personal data than others, but all ID solutions involve some form of consent management and privacy protection for consumers.
- 4. Standards & Interoperability will drive scale.** The more the varying solutions can work together, the better the targeting opportunities. Broader acceptance of Universal IDs across the ecosystem increases scale and allows marketers to gain access to better attribution data.
- 5. Universal IDs are currently available for use (and are here to stay).** The industry has been working on unified IDs and token-based solutions for a while now. The options in the marketplace represent viable, tested solutions.

Getting Involved

Thank you to those IAB Canada members who contributed to this document. If you are an IAB Canada member and would like to contribute to our community discussions on preparing for cookie independence please reach out to committees@iabcanada.com

Glossary of Terms

Term	Definition
Artificial Intelligence (AI)	Intelligence demonstrated by machines that mimic cognitive functions that humans associate with other human minds such as learning and problem-solving.
Authenticated Audiences	Individuals authenticated through deterministic means such as logins, emails, phone numbers or other identifiable means.
Cohort Based Advertising	Advertising that is targeted to a set of users grouped together because of a common identifier. A cohort can be anything: from users in a certain location to users who purchased a specific product or service within the same period.
Consent Management Platform	The company or organization that centralizes and manages transparency for, and consent and objections of the end user.
Contextual Advertising	Contextual advertising is a form of targeted advertising where advertisements appear on websites or other media, based on the content of a publisher using AI and or other language elements to match likely interest and engagement with the advertisements.
Customer Data Platform	A collection of software which creates a persistent, unified customer database that is accessible to other systems. Data is pulled from multiple sources, cleaned, and combined to create a single customer profile. This structured data is then made available to other marketing systems.
Data Management Platform	A centralizing platform to collect, organize and activate first, second and third-party audience data from any source, including online, offline, mobile, and beyond.
First-Party Data	Information collected directly from publisher or brand audience or customers. It includes but is not limited to behaviors, actions or interests demonstrated across

	owned media channels like website(s), social media, or app(s). It includes all CRM data.
Universal ID	A user identifier created by ad-tech to provide a shared identity to identify the user across the supply chain without syncing cookies.
Deterministic Matching	Deterministic matching relies on using encrypted personally identifiable information (PII) such as email address or phone number to link devices to that identity. Deterministic matching is more accurate by design, however, there are scalability concerns associated with getting users to part with their PII, and the business consideration of maintaining that data and complying with privacy regulations.
Probabilistic Matching	Probabilistic matching use “soft signals” like device type, software version, screen resolution, OS, location, and IP address to build an ID graph for users. Probabilistic matches never reach a 100% accuracy but can achieve reasonable confidence level in resolving identities.
Salting and Hashing	Both are steps implemented during the process of encrypting information (email address or phone number). Hashing is the first step, wherein the input is transformed into a series of random numbers or letters. But due to the deterministic nature of the hash function, input values that are identical will have identical outputs. Salting the hashed values ensures that the final hash is always unique

Continued Reading

[Moving Towards Cookie Independence – IAB Canada Guides](#)

[IAB Canada Guide to CMPs](#)