

MARTECH INTELLIGENCE REPORT

ENTERPRISE IDENTITY RESOLUTION PLATFORMS: *A MARKETER'S GUIDE*



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Scope and methodology

This report examines the current market for enterprise identity resolution platforms and the considerations involved in implementing this technology. This report addresses the following questions:

- What trends are driving the adoption of enterprise identity resolution platforms?
- Does my organization really need an enterprise identity resolution platform?
- What capabilities do enterprise identity resolution platforms provide?
- Who are the leading players in enterprise identity resolution platforms?
- How much do enterprise identity resolution platforms cost?

For the purposes of this report, the term “identity resolution platform” is defined as software that integrates consumer identifiers across channels and devices in a way that is accurate, scalable and privacy compliant to create a persistent and addressable individual profile. Identity resolution platforms enable marketers to “close the loop” on customer marketing, analytics and compliance with a comprehensive holistic view of activity across all of an organization’s customer touchpoints and channels. Such identifiers can and should encompass both online (device, email, cookie or mobile ad ID) and offline (name, address, phone number) data signals and attributes.

Customer identity and access management (CIAM) platforms, which focus on securely capturing and managing customer identity and profile data, as well as controlling customer access to applications (through single sign-on), are beyond the scope of this report, as are identity verification platforms that focus on fraud detection and prevention, risk mitigation and authentication.

If you are considering licensing an enterprise identity resolution platform, this report will help you decide whether or not you need to. This report is not a recommendation of any individual enterprise identity resolution company, and is not meant to be an endorsement of any particular product, service or vendor. None of the vendors profiled paid to be included in this report. Vendors were selected based on their roles as industry leaders in enterprise identity resolution or because their entire revenue comes from enterprise identity resolution software and services.

Third Door Media conducted in-depth interviews with leading vendors and industry experts in February and March 2022. These, in addition to third-party research, form the basis for this report.

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Identity resolution market overview

Consumer expectations for highly personalized marketing interactions have reached an all-time high. Two-thirds of consumers now expect companies to understand their unique needs and expectations, according to Salesforce's *State of the Connected Customer* report, and more than half always expect marketing offers to be personalized. Nearly three-quarters of consumers who say the COVID-19 pandemic impacted their priorities, also expect the companies they do business with to understand and address how their needs and objectives have changed.

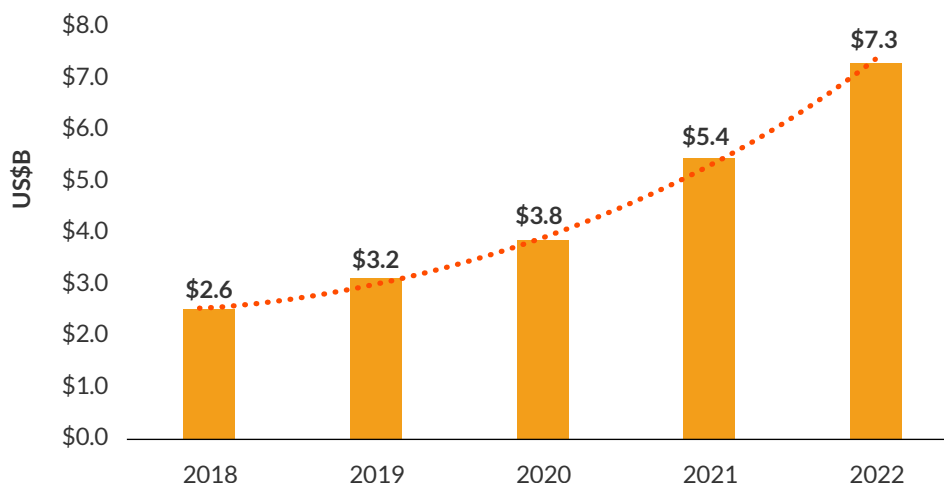
These insights are not lost on marketers: more than 90% acknowledge that their customers expect a personalized experience, according to Salesforce's *Trends in Personalization* research. In fact, a whopping 99% of marketers agree that personalization enhances their customer relationships. However, consumers are using a wide array of devices and online/offline touchpoints throughout their purchase journeys, leaving marketers with the difficult task of trying to understand which online devices and offline behaviors belong to a consumer, as well as who that consumer is.

As a result, identity resolution – the science of connecting the growing volume of consumer identifiers to one individual as he or she interacts across channels and devices – has become critical to marketing success and essential for compliance with data privacy laws. Each time a consumer interacts with the brand – regardless of channel – identity resolution attributes a different identifier to that individual. These identifiers can include an email and an IP or physical address, as well as a mobile phone number, digital tag or cookie. The identifiers are then “stitched together” and attached to a universal or proprietary ID.

Identity resolution platforms manage the process and maintain databases (a.k.a. identity graphs) of persistent individual and/or household profiles based on multiple first-, second- and third-party data sources. These platforms have become important tools for brand marketers implementing people-based marketing strategies. Two-thirds of marketers surveyed by Forrester say their identity resolution strategies have been in place for more than a year, and many have begun to see a strong return on their investments. Overall U.S. marketing spend on identity data, platforms and services is expected to increase 90% between 2020 and 2022, reaching an estimated \$7.3 billion, according to Winterberry Group (see Figure 1).

Two-thirds of consumers now expect companies to understand their unique needs and expectations.

Figure 1: U.S. spend on identity data, platforms and services, 2018-2022E



Source: Winterberry Group, Third Door Media

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First-party data takes center stage

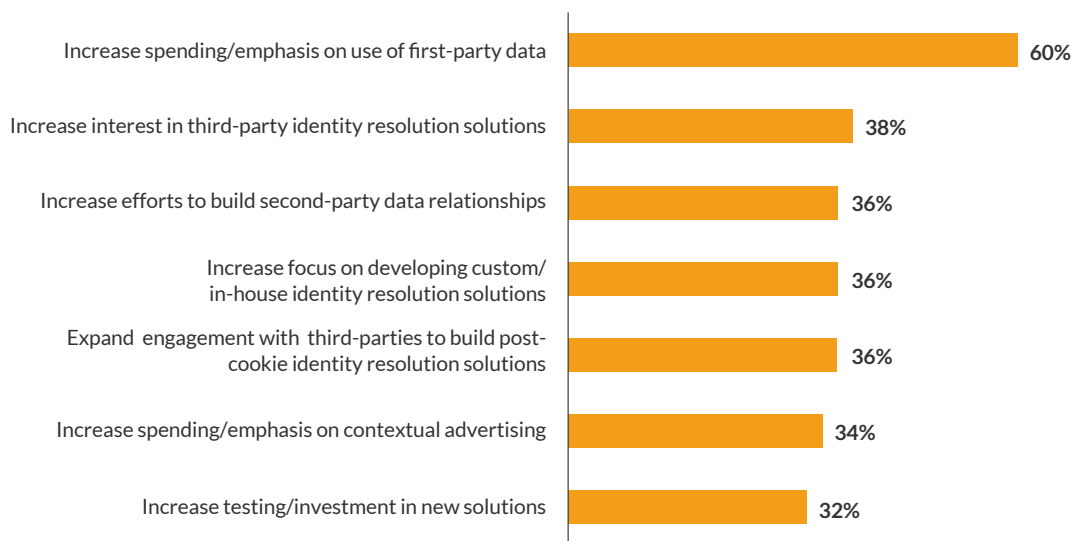
The ongoing deprecation of third-party cookies is further fueling interest in identity resolution platforms, as marketers step up efforts to enhance their first-party customer data. Google announced plans to phase out third-party cookies in its Chrome browser in late 2023, while Apple disabled IDFA, its mobile identifier for advertisers, and now requires users to opt in. Only about 20% of Apple iOS users have opted in to enable IDFA. The goal is to provide consumers with more privacy protection tools.

The Internet Advertising Bureau (IAB) and Winterberry Group found that 60% of marketers plan to increase their use of first-party customer data in response to Google's and Apple's announcements (see Figure 2). More than one-third of marketers also say they will increase their interest in third-party identity resolution solutions.

Marketers are also losing access to large pools of potential customer data due to the creation of "walled gardens" by Google, Facebook and Amazon. These closed ecosystems enable the marketplace providers to maintain control of user data. Marketers or advertisers are limited to analyzing, modeling or segmenting data within the confines of the walled garden's "privacy sandbox" to launch new campaigns.

The ongoing deprecation of third-party cookies is further fueling interest in identity resolution platforms, as marketers step up efforts to enhance their first-party customer data.

Figure 2: How will third-party cookie deprecation impact your use of data?



Note: Multiple responses allowed

Sources: IAB/Winterberry Group, Third Door Media

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Data privacy, quality and silos pose challenges

Yet even as more marketers deploy identity resolution strategies to improve message relevance and targeting accuracy, there are still significant obstacles to their success. Customer data is typically scattered throughout the organization, often residing in silos that hinder the ability to develop and nurture relationships. A consumer might use different identifiers to research something on one device (i.e., website login name), call on another (i.e., mobile phone) and then buy something in the store (i.e., loyalty ID or credit card). With more touchpoints in the average purchase journey, each of these identifiers can live in a different department with disparate collection and matching requirements.

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Poor data quality is another impediment to effective identity resolution, which requires merging and attaching numerous data points to a unified customer ID. Inaccurate or redundant data can lead to low match rates and incorrect matches. According to the 2021 Nielsen Marketing Report *Era of Adaptation*, 41% of marketers at large companies view their data quality as an obstacle to their people-based marketing goals, even while acknowledging the growing importance of their first-party customer data.

Data privacy laws have also become a daunting issue for marketers trying to build personalized marketing programs. More than half of marketers surveyed say that government regulation is the biggest challenge to their ability to derive value from their data-driven marketing initiatives, according to research jointly published by the IAB and Winterberry Group. In addition to the European Union's GDPR, California voters have approved two consumer privacy laws since 2018. The California Consumer Privacy Act (CCPA), which went into effect in January 2020, gave consumers the right to "opt out" of the sale of their data.

In November 2020, California residents approved Proposition 24, now known as the California Privacy Rights and Enforcement Act (CPRA), which explicitly gives consumers the right to opt out of the sharing of their data for "cross-context behavioral advertising." The law takes effect in January 2023 and requires online publishers to display a "do not sell or share my personal information" link on their homepages.

M&A activity heats up as identity resolution vendor market expands

The enterprise identity resolution platform market is rapidly evolving, as a diverse group of pure-play platforms, marketing cloud companies, agency holding companies and credit reporting bureaus use organic growth and external acquisitions to expand their product and service offerings. Identity resolution is a capability that many marketing technology solutions provide as a built-in component of their product suites.

The market's largest financial transaction occurred in December 2021, when publicly owned credit bureau TransUnion acquired Neustar for \$3.1 billion (see Figure 3). TransUnion plans to integrate Neustar's consumer data and analytics with its existing digital identity solutions to diversify its credit marketing business. Dublin-based credit bureau Experian bought Tapad in late 2020 to increase the cross-device identity resolution capabilities offered through Experian Marketing Services.

In February 2022, pure-play identity resolution platform Infutor was purchased by Verisk, a provider of risk evaluation and management software to financial services and energy companies, for \$223.5 million. Verisk announced it will integrate Infutor with Jornaya, a consumer behavioral data vendor acquired in December 2020, to form Verisk Marketing Solutions.

Poor data quality is another impediment to effective identity resolution, which requires merging and attaching numerous data points to a unified customer ID.

Enterprise Identity Resolution Platforms: A Marketer's Guide

Figure 3: Publicly held IR platform vendors and select transactions

TransUnion ^{tu}	Verisk	experian [™]	/LiveRamp	ORACLE [®]	ZETA
NYSE: TRU 8,200 employees	NASDAQ: VRSK 9,000 employees	LON: EXPN 6,700 employees	NYSE: RAMP 1,200 employees	NYSE: ORCL 135,000 employees	NYSE: ZETA 1,000 employees
Acquired Neustar for \$3.1 billion in July 2021	Acquired Infutor for \$223.5 million in February 2022	Acquired Tapad in November 2020	Native integration with Google Cloud announced in April 2021	Rebranded Oracle Data Cloud and Cloud CX as Oracle Advertising and CX in April 2021	Acquired Apptness consumer engagement platform in October 2021

Source: Third Door Media

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A growing number of customer data platforms (CDPs) have added identity resolution to their core data ingestion, segmentation and activation capabilities. In July 2021, Treasure Data partnered with Neustar to integrate its Unified Identity solution into the Treasure Data CDP. To fund identity resolution R&D, particularly around the use of first-party customer data, Amperity raised \$100 million in Series D financing in July 2021. The Amperity CDP comprises three products, including AmpID, an AI-driven customer identity management solution, and operates a proprietary identity graph.

Identity resolution platform vendors continue to develop new products to respond to market demand for privacy-compliant solutions such as data clean rooms and first- or second-party data cooperatives. For example, Merkle's Merkur Clean Room is a closed analytics environment enabling clients to perform advanced segmentation, modeling, closed-loop measurement and attribution at the individual, anonymous ID level. Neustar's Fabrick Data Marketplace combines first-party customer profiles with second-party attributes from a set of trusted partners for cookie-less segmentation and targeting.

A growing number of customer data platforms (CDPs) have added identity resolution to their core data ingestion, segmentation and activation capabilities.

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Enterprise identity resolution platform capabilities

Identity resolution platforms support marketing processes around targeting, measurement and personalization for both known and anonymous audiences across digital and offline channels. Virtually all of the enterprise identity resolution platform vendors profiled in this report offer the following core features and capabilities:

- Data onboarding (including online/offline matching).
- Proprietary identity graph.
- Client ownership of first-party data.
- Persistent individual and/or household ID.
- Compliance with data privacy regulations.
- APIs for third-party system integration.

Vendors begin to differentiate their platforms by offering more advanced features, sometimes requiring additional investment, which include – but are not limited to – the following:

- Match confidence scoring.
- Data clean rooms.
- Private (first-party) and/or second-party cooperative identity graphs.
- Pre-built connections to martech/ad tech platforms.

The following section examines these features and capabilities in more detail, as well as the key considerations involved in choosing an enterprise identity resolution platform (see Table 1).

Data onboarding

Data onboarding is the first step in the identity resolution process. Client data is typically onboarded via secure file transfer (SFTP), although several vendors profiled in this report also provide direct API transfer or pixel syncs. Data is processed with the goal of establishing a universal view of the customer and includes the following:

- Matching individual identifiers in the identity graph (see below) to associate the customer with their interactions across touchpoints, particularly online to offline.
- Suppressing unresolved IDs and interaction data for potential future use.
- Hashing or tokenizing personally identifiable information (PII) with an anonymized customer ID.
- Linking matched IDs to a universal ID representing the customer profile and all of its associated attributes.
- Validating the accuracy of matches to a pre-established “truth set” of referential data known to be precise and accurate.

Virtually all of the vendors profiled in this report provide persistent customer IDs during the identity resolution process, which means the ID follows the individual (or household) even as identifiers change, which they inevitably do. For example, when browser cookies expire or are deleted or customers buy and use new devices, the customer ID will remain the same. Persistence is also critical to enabling temporal time-series analytics, such as churn analytics.



Identity resolution platforms support marketing processes around targeting, measurement and personalization for both known and anonymous audiences across digital and offline channels.

Deterministic versus probabilistic matching

Matching algorithms differ among vendors, with matches established via probabilistic or deterministic methods or a combination of both. Deterministic matching relies on explicit links between identifiers, such as an email address that is used to sign in to a website or mobile app and can be associated with the resulting cookie or mobile ad ID (MAID). Probabilistic matching relies on implicit links between identifiers, such as a desktop cookie and MAID both associated with a residential IP address. The goal is to consider multiple signals like location and browsing history in the absence of direct matches.

Both approaches have their pros and cons, which should be considered when choosing an identity resolution platform. Deterministic matching takes an omnichannel view that attempts to connect identifiers across digital and offline interactions. It can be difficult to scale and uses a more conservative approach to ensure data integrity. Probabilistic matching can “weed out” inaccurate data because it looks at a variety of data points versus binary matches. Its drawback is that it is limited to online touchpoints. Some vendors are using hybrid identity resolution approaches, which try to compensate for deterministic and probabilistic weaknesses while capitalizing on their advantages. They use deterministic and probabilistic linkages, and then merge the two linkage sets together to form new, combined clusters.

Many vendors provide their overall match rates to potential clients. A few vendors go a step further, providing clients with customizable match algorithms or confidence scores (how likely the matches are accurate) based on their specific first-party customer data and data quality profiles. For example, a pure online organization may rarely use postal addresses and will likely have lower quality address data than an organization that relies on fulfillment to a physical shipping address. Addressability is another factor that can help marketers measure their match accuracy by assessing the number of consumers that actually can be contacted.

Identity graph

Every identity resolution vendor profiled in this report maintains a proprietary identity graph or database that houses all the known identifiers that correlate with individual consumers. There is no standard model for an identity graph. Each vendor differs in the types of foundational PII used, the matching methods employed and the non-PII integrated to enrich the individual profiles. Across the buyer's journey, many identifiers can be associated with an individual, including email addresses, physical addresses, landline and mobile phone numbers, mobile ad and device IDs, account user names and loyalty numbers. The identity graph collects these identifiers and links them to customer profiles, which are used to target and personalize marketing messages.

Identity graphs may also incorporate demographic, behavioral, financial, lifestyle, purchase and other data compiled or licensed from third-party sources, such as online news sites, purchase transactions, surveys, email service providers (ESPs), motor vehicle records, voter registration and other public records. Having all of this customer device, channel and behavioral data in one place allows brand marketers to more accurately measure the reach and frequency of their campaigns, and analyze how different ads and marketing tactics perform across channels.

In response to the dwindling availability of third-party cookie data and the increasing use of consumer privacy tools, such as advertising and location blocking apps, several identity resolution platform vendors are offering identity graphs built on first-party or second-party datasets. First-party identity graphs are exclusively used by a brand to house and match known customer data. Second-party identity graphs use cooperative data-sharing agreements between multiple brands or publishers to create common, anonymized identity assets. Participating organizations can build, plan, activate and measure custom audience pools to either target or suppress customers across addressable media.



Matching algorithms differ among vendors, with matches established via probabilistic or deterministic methods or a combination of both.

Data privacy and compliance

In addition to the European Union's GDPR, California voters have approved two consumer privacy laws since 2018. The California Consumer Privacy Act (CCPA), which went into effect in January 2020, gave consumers the right to "opt out" of the sale of their data. In November 2020, California residents approved Proposition 24, now known as the California Privacy Rights and Enforcement Act (CPRA), which explicitly gives consumers the right to opt out of the sharing of their data for "cross-context behavioral advertising." The law takes effect in January 2023 and requires online publishers to display a "do not sell or share my personal information" link on their homepages.

Marketers in the highly regulated healthcare market must also follow the Health Insurance Portability and Accountability Act (HIPAA) and Health Information Technology for Economic and Clinical Health Act (HITECH) regulations. In addition, all organizations that accept, process, store or transmit credit card information must maintain a secure environment that meets Payment Card Industry Data Security Standards (PCI DSS), as well.

To support consumer data privacy and comply with these regulations, identity resolution platform vendors are rolling out "data clean rooms" for data analysis, modeling and segmentation. The vendor provides a secure environment where data may be shared by partners and clients in a one-to-one or one-to-many format. Depending on the solution, type of encryption and the data permissions, the data itself may or may not move between parties. The goal is to facilitate the highest level of privacy and security when companies come together to share data.

Third-party software integration

The ultimate marketing goal for identity resolution is to support and enable data activation by pushing segmented audiences into highly personalized campaigns through a variety of martech (CRMs, DMPs, marketing automation platforms, ESPs, etc.) and ad tech (DSPs, SSPs, ad exchanges, etc.) tools and platforms. Identity resolution platforms should be able to streamline integration with the client's martech and ad tech ecosystems by providing pre-built (or native) connections and an extensive set of APIs for custom integrations. Access to these APIs may or may not be included in base pricing.

To support consumer data privacy and comply with these regulations, identity resolution platform vendors are rolling out "data clean rooms" for data analysis, modeling and segmentation.

Enterprise Identity Resolution Platforms: A Marketer's Guide

Table 1: Select enterprise identity resolution platform capabilities

Vendor	Persistent Customer ID		Identity graph referential data			Data onboarding		Data privacy		Third-party software integration	
	Individual	Household	1st Party (Private)	2nd Party (Co-op)	3rd Party	Online/Offline matching	Confidence scoring	Clean room	Regulatory compliance	Pre-built connectors	API
Acxiom	✓	✓	✓	✓	✓	✓	✓	✓	CCPA, GDPR, FCRA, HIPAA	✓	✓
Adstra	✓	✓	✓	✓	✓	✓	✓	✓	CCPA, GDPR	✓	✓
Amperity	✓	✓	✓	✓	✓	✓	✓	✓	CCPA, GDPR	✓	✓
Experian	✓	✓	✓	✗	✓	✓	✓	✓	See Notes	✓	✓
FullContact	✓	✓	✓	✓	✓	✓	✓	✓	CCPA, GDPR, PCI DSS	✓	✓
Infutor	✓	✓	✓	✓	✓	✓	✓	✓	CCPA, DPPA, FCRA, GDPR, GLBA	✓	✓
LiveRamp	✓	✓	✓	✓	✓	✓	✓	✓	See Notes	✓	✓
Merkle	✓	✓	✓	✓	✓	✓	✓	✓	CCPA, FCRA, GDPR, HIPAA	✓	✓
Treasure Data	✓	✓	✓	✓	✓	✓	✓	✓	GDPR, CCPA	✓	✓
Vericast	✓	✓	✓	✗	✓	✓	✗	✗	CCPA, GDPR, HIPAA	✓	✓
Zeta Global	✓	✗	✓	✓	✓	✓	See Notes	✗	See Notes	✗	✓

Notes: Experian strictly complies with data protection laws in all the countries that it operates in.

Oracle has adopted processes and practices to align with privacy regulations, including GDPR requirements.

LiveRamp Privacy Impact Assessments (PIAs) and operational audits take into consideration compliance obligations under applicable laws (e.g., GDPR, HIPAA, GLBA and CCPA) and associated privacy risks.

Some data about Zeta Global's solutions was not available at the time of publication.

Privacy regulation abbreviations as follows: CCPA=California Consumer Protection Act; DPPA=Driver's Privacy Protection Act; FCRA=Fair Credit Reporting Act; GDPR=General Data Protection Regulation; GLBA=Gramm-Leach-Bliley Act; and HIPAA=Health Information Portability and Accountability Act.

Source: Third Door Media

Choosing an enterprise identity resolution platform

The benefits of using enterprise identity resolution platforms

Connecting consumer identifiers has become a mandate for enterprise marketers trying to meet or exceed customer expectations for a personalized brand experience. Automating the process with an identity resolution platform can provide the following benefits:

- **Deeper customer insights.** Piecing together data signals from multiple data sources and interactions enables marketers to build more robust customer profiles. Knowing the customer at a more granular level can help drive rich customer insights that enhance campaign targeting, personalization and relevance.
- **Accurate personalization.** Better personalization is a primary marketing use case for many identity resolution platforms, which create a consistent set of identifiers to fuel personalized interactions. If you don't know with confidence who your customer is, you can't personalize your messages or experiences.
- **More seamless customer experiences.** Automated identity resolution allows marketing organizations to create a unified view of customers, which can be communicated and deployed across brands, business units and product lines. Recognizing customers across every step of the purchase journey reduces waste by eliminating duplicate contacts, and enhances their experiences by creating interactions in the right channel at the right time.
- **Stronger privacy governance, risk and compliance (GRC).** Effective identity resolution supports the organization's commitment to data governance and, ultimately, consumer trust in your brand. Using an identity resolution platform makes customer preference management (including opting out), as well as regulatory and corporate policy compliance easier and more comprehensive.
- **Enhanced cross-channel attribution and campaign tracking.** Persistent IDs that identify customers (both known and anonymous) across channels enables more accurate, closed-loop measurement and multi-touch attribution.
- **Increased marketing ROI.** Identity graphs reduce data overlap and duplication, resulting in more efficient spending on campaigns that work. Conversely, not knowing who your customers are leads to misidentifying them and engaging in ways they may perceive to be intrusive or irrelevant.

Enterprise identity resolution platform pricing

Licensing an enterprise identity resolution platform can be a significant investment, particularly for large brands with omnichannel marketing strategies. Pricing is typically based on the volume of data records or customer profiles managed by the vendor. However, several vendors profiled in this report also charge by the number of matches or API calls. Platforms are licensed on a software-as-a-service (SaaS) basis, i.e., the vendor makes the software available online and is responsible for all maintenance and system administration.

Most of the enterprise identity resolution platform vendors profiled in this report require an annual contract. A few vendors offer free trials of the platforms or proofs of concept, which are more limited tests of the platform's potential benefit to the brand's data set. Depending on the vendor, there may also be fees for onboarding, custom integrations and training.



Licensing an enterprise identity resolution platform can be a significant investment, particularly for large brands with omnichannel marketing strategies.

Recommended steps to making an informed purchase

Understanding your current marketing processes, knowing how to measure success and being able to identify where you are looking for improvements are all critical aspects of the enterprise identity resolution platform decision-making process. The following section outlines four steps to help your organization begin that process and choose the platform that is the right fit for your business goals.

Step one: Do you need an enterprise identity resolution platform?

Deciding whether your company needs an enterprise-level identity resolution platform calls for the same evaluative steps involved in any software adoption, including a comprehensive self-assessment of your organization's business needs, staff capabilities, management support and financial resources. Use the following questions to help you determine the answers.

- Does our customer data reside in disconnected silos throughout the organization?** Organizational silos between departments such as sales, marketing, procurement or customer support increase the risk that your customer's experience with the brand is not as targeted or consistent as it should be. An identity resolution platform may help connect these disparate systems to provide a more insightful view of customers.
- Do we have customer knowledge gaps that could be filled with trusted second- and third-party data?** First-party data is the foundation of your brand's relationship with customers, and becoming more important as third-party data sources like cookies and mobile IDs are phased out by Google and Apple. Identity graphs can be a valuable source of demographic, location, financial and other anonymized second- and third-party data that can fill gaps in customer insights. As data collection and matching techniques improve, along with access to cooperative data sources, creating a 360-degree view of customers through identity resolution platforms may make sense.
- Are we in compliance with CCPA, GDPR and other data privacy regulations?** Consumer data breaches and evidence of misuse continue to make news headlines. As a result, data privacy regulations are on the upswing. Is your organization's data governance practices in compliance with the EU's GDPR or the CCPA? Data-driven marketing is a competitive edge in today's crowded media marketplaces, but can also escalate the risk of damaging your brand and incurring legal consequences. An identity resolution platform can ensure compliance with the growing list of regulations and create greater customer trust in your brand.
- Can we successfully integrate our existing customer data systems with an identity resolution platform?** Marketers continue to rely on larger, more complex martech stacks to collect, analyze and execute customer-centric marketing strategies. But can your various martech and ad tech systems "talk" to each other? Perhaps your organization can benefit from an identity resolution platform that can incorporate identifiers and profiles between and within these systems for consistency and accuracy.
- Does our C-suite support identity resolution initiatives?** A Forrester study found that the majority of C-level executives overrate their marketing organization's customer identity accuracy and persistence. A lack of executive buy-in can lead to inadequate budgeting, campaign measurement and performance, and disjointed customer experiences. It is critical, therefore, to secure C-suite support for identity resolution initiatives across the organization.



Organizational silos between departments such as sales, marketing, procurement or customer support increase the risk that your customer's experience with the brand is not as targeted or consistent as it should be.

- **How would we use identity resolution?** There are multiple marketing use cases for identity resolution, from complying with data privacy regulations to developing more accurate lookalike audiences to improved marketing segmentation and targeting. Identifying the specific use cases that would most benefit your organization is essential to establishing and prioritizing the capabilities you'll need in an identity resolution platform.
- **How will we define success? What KPIs do we want to measure and what decisions will we be making based on the data?** As with any technology investment, it is critical to measure the impact of the identity resolution platform on your marketing ROI. Resolving customer identities should create new cross-sell and upsell opportunities because your marketing team will know more about your customers. Although KPIs will vary by organization or industry, you should be able to measure incremental lift in metrics such as average order value, average revenue per user, basket size, response rates or customer engagement.
- **What is the total cost of ownership?** The majority of enterprise identity resolution platforms use on-demand pricing, meaning customers pay a monthly subscription price that will vary by usage. Pricing is typically based on the number of data records or customer profiles under management or the number of matches or API calls. Some also have add-on customer support options.

Identifying the specific use cases that would most benefit your organization is essential to establishing and prioritizing the capabilities you'll need in an identity resolution platform.

Step two: Identify and contact appropriate vendors

Once you have determined that an enterprise identity resolution platform makes sense for your business, spend time researching individual vendors and their capabilities by doing the following:

- Create and prioritize your list of identity resolution use cases, from essential to not necessary.
- Take your list of use cases and then do some research. Many of the vendors profiled in this report also provide blogs, e-books and interactive tools that can help.
- Make a list of the vendors that meet your criteria. Reach out to them and set a deadline for replies.
- Decide whether or not you need to engage in a formal RFI/RFP process. This is an individual preference, however be sure to give the same criteria to each vendor to facilitate comparison.

The most effective RFPs only request relevant information and provide ample information about your brand and its identity resolution needs. It should reflect high-level strategic goals and KPIs. For example, mention your company's most important KPIs and how you will evaluate the success of your efforts. Include details about timelines and the platforms in your existing martech stack.

When written properly, an RFP will facilitate the sales process and ensure that everyone involved on both sides comes to a shared understanding of the purpose, requirements, scope and structure of the intended purchase. From the RFP responses, you should be able to narrow your list down to three or four platforms that you'll want to demo.

Step three: Scheduling the demo

Set up demos within a relatively short timeframe of each other to help make relevant comparisons. Make sure that all potential internal users are on the demo call and pay attention to the following:

- How easy is the platform to use?
- Does the vendor seem to understand our business and marketing needs?
- Are they showing us our “must-have” features?

The questions to ask each vendor on the following topics include:

Data onboarding and privacy

- ✓ Does the platform support first-party data onboarding?
- ✓ Can we incorporate any of our private customer IDs into the platform?
- ✓ Do you use probabilistic, deterministic or a hybrid approach to matching?
- ✓ How do you validate the accuracy of your deterministic matches?
- ✓ What match rate can we expect, given our vertical market and database size?
- ✓ How do you comply with privacy regulations and consumer choice?

Identity graph

- ✓ Do you own or license your referential identity data?
- ✓ What are your identity data sources?
- ✓ How do you validate the quality of your identity graph?
- ✓ How much of your data is addressable?
- ✓ How is your identity graph linked to offline PII?
- ✓ Do your identity capabilities apply to non-U.S. markets?

Martech and ad tech integration

- ✓ How does the platform integrate with martech platforms (i.e., CRMs, DSPs, CDPs)?
- ✓ Does the platform feature any built-in data activation capabilities (i.e., personalized email or ad campaign execution)?
- ✓ Do you have APIs available for data import/export?
- ✓ What reporting do you provide that will document the ROI from our identity efforts?

Customer support

- ✓ What kind of customer support is included? Can we pick up the phone to report problems?
- ✓ Will we have a dedicated account manager and technical support?
- ✓ Do you offer a proof-of-concept to measure potential performance and scale?
- ✓ Do you provide a self-service option in which we can manage identity data?
- ✓ What kind of professional services are available? And how much do they cost?
- ✓ How does the company handle requests for product modifications?
- ✓ What new features are you considering?
- ✓ What's the long-term roadmap and launch dates?

Set up demos within a relatively short timeframe of each other to help make relevant comparisons.

Step four: Check references, negotiate a contract

Before deciding on a vendor, take the time to speak with several customer references, preferably in your company's vertical market. The enterprise identity resolution platform vendor should be able to supply you with several references if you cannot identify ones yourself. Use this opportunity to ask any additional questions and to find out more about any questions that weren't answered during the demo. Make sure that the person you've been referred to is someone who is a primary user of the platform. Consider also asking these basic questions:

- ✓ Why did you move to an enterprise identity resolution platform?
- ✓ Why did you select this platform over others?
- ✓ Has this platform lived up to your expectations?
- ✓ How long did the software take to implement?
- ✓ Who was involved in the implementation?
- ✓ Are you also using additional tools for authentication or analytics?
- ✓ Were there any surprises that you wish you'd known about beforehand?
- ✓ Where have you seen the most success? The biggest challenges?
- ✓ How are you measuring your own success?
- ✓ Has the overall implementation provided positive ROI, including all costs (i.e., license, man-hours, etc.)?
- ✓ What is the most useful, actionable (favorite) report the platform generates?
- ✓ How easy was the set-up process and how long? Did the vendor help?
- ✓ How responsive is customer service?
- ✓ Has there been any downtime?
- ✓ What do you wish they did differently?
- ✓ Why would you recommend this platform?

Although not all vendors require an annual contract, many do. Once you've selected a vendor, be sure to get in writing a list of what technology and support are covered in the contract. Ask about what kinds of additional fees might come up:

- ✓ Are there charges for custom integrations or API access? If so, how much?
- ✓ What is the hourly charge for engineering services, and is there a minimum?
- ✓ What partner organizations are available to install and integrate the platform?
- ✓ If we need to train a new hire mid-year, what will that cost?
- ✓ What performance levels do you guarantee (response time, availability, problem resolution, accuracy, etc.) and what happens if you don't meet them?
- ✓ What is the "out" clause?

Obtaining the answers to these types of questions upfront – and having them in writing – will ensure fewer surprises or additional costs down the road.

Once you've selected a vendor, be sure to get in writing a list of what technology and support are covered in the contract.

Conclusion

Identity resolution has become an essential tool for brand marketers seeking to understand with confidence who their customers are, what channels they use and how they want their data protected. Consumers are better informed than ever before, and brands must deliver the most relevant, personalized and impactful customer experiences possible.

As the linchpin to a customer-centric strategy, identity resolution allows marketers to more accurately target and personalize brand messages, creating more profitable customer journeys. By automating the process with an identity resolution platform, your organization can do more than simply update and rationalize customer profiles. You will gain a crucial understanding of marketing measurement and performance that can sit at the heart of your organization's one-to-one relationship efforts.

But the enterprise identity resolution platform market is crowded with pure-play platforms, marketing cloud companies, agency holding companies and credit reporting bureaus. To determine the best fit for your organization, it is important to first understand your business needs, staff capabilities, management support and financial resources. From there, you can make an informed decision that will provide long-term benefits to your customers and your entire organization. ■



As the linchpin to a customer-centric strategy, identity resolution allows marketers to more accurately target and personalize brand messages, creating more profitable customer journeys.

VENDOR PROFILES



Acxiom

301 E. Dave Ward Rd.
Conway, AR 72032
T: 888-322-9466
[acxiom.com](https://www.acxiom.com)

Key customers

Adobe
AT&T
Fossil
Netspend
Southwest Airlines
The Trade Desk

Key executives

Chad Engelgau,
Chief Executive Officer

Jed Mole,
Chief Marketing Officer

Tate Olinghouse, Chief Customer
Officer & Industry Managing
Director

Jordan Abbott,
Chief Data Ethics Officer

Target customer

- B2B enterprises in the retail, insurance, healthcare, financial services, travel, automotive, entertainment and consumer packaged goods (CPG) verticals.

Company overview

- Founded in 1969.
- 2,400 employees.
- Acquired by Interpublic Group (IPG) for \$2.3B in October 2018.
- Additional U.S. offices in Austin, TX and New York, NY.
- International offices in China, the U.K., Poland and Germany.

Product overview

- Real Identity offers a global, scalable suite of connected capabilities that bring together the martech and adtech ecosystems, including first-party identity graphs, real-time services and a universal first-party tag, hygiene and linking, and identity consulting.
- Primary marketing use cases focus on:
 - Ownership of a first-party identity strategy to counteract the loss of third-party cookies.
 - Control of all owned and paid media (impressions/visits) collected.
 - Sub-second delivery of data and identity to fuel platforms for personalization.
 - Measurement of overall campaign effectiveness.
 - Compliance with privacy regulations by enabling the look-up and removal of consumer information.
- SaaS or cloud-based hosting available.

Data onboarding

- Provides offline/online matching leveraging a variety of matching and identity resolution strategies with configurable recognition rules, grouping logic and global identifiers.
- Data uploaded through multiple batch options or transactionally via RESTful APIs.
- Customizable match algorithms with starter configurations tuned for brand and geographic requirements.
- Match rates not disclosed.
- Customized confidence scoring available.
- Provides a persistent customer ID.

Identity resolution methodology

- First-party, private identity graphs synchronize identity data used across the enterprise to connect and maintain identity across touchpoints, devices, channels, and identity relationships. Flexible source options are available at client discretion. Real-time services are available to deliver sub second decisions to power relevant messages in real time.
- Acxiom's consumer demographic data, predictive indicators and consumer segmentation cover 250 million U.S. consumers as well as more than 60 additional countries worldwide.
 - Five standard ID levels: individual, household, address, business and business contact, plus options to define additional levels based on client custom requirements.

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Acxiom

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acxiom.com

Privacy compliance

- GDPR, CCPA and HIPAA compliant.
- Clients maintain ownership of their first-party data and first-party identity graphs with non-discoverable linkage to second- and third-party referential graphs.

Analytics

- Fully functional analytical platforms are available Acxiom data management solutions.
 - Acxiom's audience distribution platform includes automated modeling leveraging machine learning to expand predictive audiences at a national scale.
- Recommendation options include "next best offer" applicable across industries.

Third-party software integration

- Pre-built connections via API or direct interface with 150-plus data, technology, app and integration partners, as well as digital publishers and platforms, including Adobe, Cisco, eBay, Microsoft, Pandora and The Trade Desk.

Pricing and support

- Pricing based on records under management with transactional, volumetric pricing influencers.
- Average annual customer spend ranges from several thousand to several million dollars.
- Proofs of Concept (POCs) available, depending on platform, client and use case.
- Annual contract required.
- Typical onboarding time is four weeks to four months dependent on the solution.
- 24/7 customer support for all solutions via help desk is included.
- Add-on professional services include strategic consulting, analytics, measurement, fully hosted solutions and SaaS applications, as well as specific applications to address use cases for product recall and campaign management, etc.

VENDOR PROFILES



Adstra

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T: (800) 252-5478
[Adstradata.com](https://adstradata.com)

Key customers

Not publicly disclosed but available on request.

Key executives

Rick Erwin,
Chief Executive Officer

Andy Johnson,
Chief Data Officer

Jonathan Kelleher,
Chief Financial Officer

Chandos Quill, Chief Strategy
and Development Officer

Target customer

- Enterprise brands and their partners (agencies, platforms, publishers) across retail, financial services, auto, healthcare, nonprofit and media/entertainment.

Company overview

- Founded in 1978.
- 200 employees.
- Before its rebranding in 2020, Adstra was known as ALC. ALC was acquired by CIP Capital in November 2018 and followed that up with a purchase of its own -- of device graph company Qualia -- later that month.
- Adstra provides brands with marketing identity and data solutions to improve their marketing performance. The company's cloud-based enterprise identity platform, Conexa, helps businesses match first-party data with other information that allows them to personalize touchpoints for their customers across all channels and platforms.
- Adstra is headquartered in Princeton, New Jersey and operates four additional office locations across the U.S. including Tarrytown and New York City in New York as well as Oakland and Irvine in California.

Product overview

- Adstra's Enterprise Identity Platform – Conexa – is a cloud-based technology enabling person-based, persistent, portable and privacy-compliant enterprise data management, identity resolution and enrichment.
- The platform integrates with customers' existing software, creating a transparent, omnichannel identity system without requiring customers to send their data to third parties.
- Customers may run the platform themselves with Adstra user support or through Adstra managed remote resources with appropriate data access protections. With its modular design, Conexa operates at a brand's existing capabilities and evolves as their needs expand.
- Use cases include:
 - Data unification, such as integrating and enriching known and anonymous data across the enterprise to create a single persistent customer across brand silos for both digital and terrestrial properties.
 - Resolving the identities of existing and prospective customers at brand touchpoints even if they're not in a "registered" state.
 - Analytics and targeting applications, such as connecting disparate data (collected and appended) for insights, audience creation and analytics-related products.
 - Media activation and campaign measurement, boosting accurate match rates to allow wider campaign reach as well as supporting marketing attribution efforts. This includes the provision of impression data and ID mapping for digital campaigns, CTV/OTT, demographics and CRM.
 - Customer experience management and personalization, such as delivering better customer experiences through consistent cross-media identity resolution, and providing marketers with insights needed to create engagement campaigns and data-driven advertising.
 - Omnichannel management. Brands making the shift from in-store sales utilize Adstra's solution to connect and communicate to offline customers through digital media. The technology also allows them to create an omnichannel identity system as they pivot to a direct-to-consumer model.

VENDOR PROFILES**Adstra**

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[Adstradata.com](https://adstradata.com)

- Adstra's Enterprise Identity Platform, Conexa, can be accessed via a variety of different models, including:
 - Platform as a Service installed inside the customer's environment.
 - API access to any solution layers of the platform.
 - Customers send their data to Adstra, and a solution is returned in the traditional method.
 - Adstra's client success team helps clients migrate from one service approach to another based on their internal readiness.

Data onboarding

- Adstra's platform integrates directly with a number of media platforms and Adstra's tracking tag technology is certified on over 75 media activation platforms in traditional, display, mobile and targeted TV applications. This enables brands to work directly with activation platforms and minimize the need for additional onboarding services.
- In addition, through the Platform and persistent ID, a client can push their audience data to any activation partner.
- Conexa includes an integrated data hygiene and processing layer for data hygiene, standardization and harmonization ingestion, tagging and identity and signal capture. For terrestrial data the Conexa utilizes CASS, NCOA processing to standardize postal address information and capture recent household moves. In addition, processing against DMA pander file / Do not solicit and Deceased File processing can be utilized. On the digital side the Conexa uses proprietary data hygiene algorithms to filter out bot traffic and over-associated device and browser signal data. Signal saturation rules are also incorporated into match quality scores.

Identity resolution methodology

- Adstra's proprietary Conexa platform includes extensive identifiers, attributes

and signals representing all marketable consumers across the known and anonymous realms. This Includes PII (name, address, phone, and historical addresses), digital identifiers and meta data (HEMs, IPs, MAIDs, CTV, resting location), and digital anonymous identifiers (first- and third-party cookies and device metadata).

- Adstra maintains control over its identity system, the data assets, and the network capabilities within the EIP, enabling all or part of the platform to be ported into a client's environment
- Adstra designed the system from the ground up as an omnichannel system keyed to a known individual, rather than starting with one type of media and expanding to others.
- All identifiers can be crosswalked to each other and connected on a persistent key.

Analytics

- Conexa leverages AI-driven analytics and machine learning for identity resolution and audience creation.
- The platform provides standard reporting to customers and integrates with external customer analytics tools or technologies.

Privacy compliance

- Adstra uses a Privacy by Design approach, which keeps consumer privacy as a proactive criteria when developing and embedding privacy practices into compliant technology and products.
- The company provides all tooling and services needed for clients to store data securely behind their firewall and receive updates.
- Data is fully isolated from the public internet and includes rigorous permission rules.
- Adstra is a member of many industry organizations with standards for privacy and data regulation, including but not limited to Digital Advertising Alliance (DAA), Internet Advertising Bureau (IAB), OneTrust, Venable and Privacy for America.

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Third-party software integration

- Adstra has built its own unique mechanisms to match Adstra data to other sources of data using its persistent consumer or household ID.
- Adstra provides its proprietary real-time sync platform using pixel or JavaScript tags and also supports batch processes capable of matching different digital identifiers to Adstra data to make it actionable in martech/ad-tech ecosystems.
- Adstra offers pre-built connections via API or direct integration with 75+ activation channels including online, mobile, TV, digital onboarding, email and direct mail.
- Adstra owns and operates its own pixel tag/domain for audience profiling and data collection and can be synced with a brand's martech/adtech solutions. Adstra data is also available in AWS, Google, Snowflake and Azure marketplaces which enables easy access to consumer data.

Pricing and support

- No annual contract is required.
- A free trial is available for testing pre-purchase.
- The platform supports a broad set of use cases and pricing is designed to enable use without the need for upcharges or using CPM models. Typical solutions are priced as a monthly subscription with price structures dependent on:
 - Overall business scale
 - Service provided/ modules included
 - With consideration to value creation
- Contracts are typically renewed annually and may include free trial or discounted periods for proof-of-concept execution at the contract onset, and increases based on business objectives achieved.
- Initial implementation and setup are included with the monthly subscription fee along with an allotted additional support hours per month, based on the service paradigm selected.

VENDOR PROFILES



Amperity

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T: 415-994-2180

amperity.com

Key customers

Alaska Airlines

DICK'S Sporting Goods

Home Depot

Kroger

Michael's

Starbucks

Key executives

Barry Padgett, Chief
Executive Officer

Derek Slager, Co-founder and
Chief Technology Officer

Target customer

- Enterprise companies, especially those in the retail, travel and hospitality, financial services, quick-serve restaurants, healthcare and automotive industries.

Company overview

- 300 employees.
- Founded in 2016.
- Acquired Custora in November 2019.
- In July 2021, Amperity raised \$100M Series D for a total of \$187M raised to date.
- Amperity is a B2C enterprise customer data platform (CDP) that leverages AI to deliver a unified, complete, and actionable 360-degree view of the customer.
- The company is headquartered in Seattle with offices in NYC and ongoing global deployments in NA, EMEA, APAC.

Product overview

- Amperity CDP comprises three products, which are complemented by a services offering and partner ecosystem. Brands can purchase all or customize any combination from Amperity's products, which are powered by the patented DataGrid customer data infrastructure. Tools include:
 - **AmplID**: AI-powered customer identity management.
 - **Amp360**: Unified customer profiles paired with robust data and predictive elements for a holistic view of the customer.
 - **AmplIQ**: The hub for customer intelligence and activation.
- Amperity Profile Accelerator is designed to deliver comprehensive, accurate, and accessible customer profiles that power rigid systems downstream such as marketing clouds. Amperity's patented no-ETL data ingestion and proprietary identity resolution aims to transform siloed, messy, raw customer data into a flexible data asset. Profile Accelerator for Adobe launched in March 2022.

Data onboarding

- Data ingestion leverages common industry data transfer protocols, but doesn't employ the typical extract, transform, load (ETL) process. Doesn't enforce target schema. Both of these are aimed at making it easier to incorporate new customer data sources as businesses evolve.
- Data transformation is performed in the cloud.
- Daily identity resolution ensures a fresh view of customer identity.
- Change management support that includes parallel sandboxes, so changes can be made and QAed before they are put into production.

Identity resolution methodology

- Operates its own proprietary identity graph featuring:
 - ML-based identity resolution that supports both probabilistic and deterministic matching methods.
 - Algorithms and match thresholds that can be configured to meet a brand's unique needs.
 - Householding built off accurate individual identities and relevant PII.
 - Customer ID graph connecting a brand's disparate data with a stable Amperity ID.

VENDOR PROFILES

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amperity.com

Privacy compliance

- Amperity has been independently audited and found to be in compliance with the requirements laid out in AICPA SOC II Type II. The platform supports GDPR, CCPA, as well as other key privacy frameworks.
- Amperity maintains a full time, dedicated Security team. Industry certifications of team members include: CISSP, CEH, OSCP, Security+, CISA, CISM, CHFI and CND and HCISPP.
- Amperity works with an industry-leading penetration testing services provider to routinely perform testing against its platform. Issues identified during penetration tests are tracked and resolved in a timely fashion.
- Amperity's platform includes an exportable audit log, role-based access control (including PII obfuscation), and integration with enterprise Single Sign On (SSO) products, through established protocols such as Oauth, SAML and OpenID Connect.

Analytics

- Amperity's platform includes analytics workflows designed for enterprise-grade data processing and limitless scale.
- Features include limitless table and attribute creation, business intelligence, modeling and dashboarding.
- Connects to third-party dashboarding platforms like Tableau, powerBI and others.
- Analysts and marketers can employ SQL or no-code queries to return data.
- Out-of-the-box reporting includes

customer views of lifetime value, segment insights and campaign performance.

- The platform includes AI-powered predictive modeling including predictive CLV, next best offer and likelihood to churn.

Third-party software integration

- Amperity integrates with 200+ of the most commonly used technology providers across marketing, CX and analytics, including:
 - AWS, Azure, Snowflake and Google Cloud.
 - Marketing clouds such as SFMC, Adobe and Oracle.
 - Business Intelligence tools such as Tableau, PowerBI and Looker.
 - Marketing systems such as Braze, Klaviyo, Segment, Tealium and mParticle.
- Additionally, Amperity partners with dozens of consultancies and Systems Integrators who are trained to implement the software.

Pricing and support

- Annual contract is required.
- Free trial is available.
- Licenses start at \$100K annually for software and scale up according to data volumes.
- Amperity offers a managed service staffed by customer data management experts who help clients across a variety of industries manage their customer data.

VENDOR PROFILES



Experian Marketing Services

475 Anton Blvd.

Costa Mesa, CA 92626

T: 877-902-4849

www.experianmarketing.com

Key customers

Not disclosed.

Key executives

Genevieve Juillard, President

Klaudette Christensen,
Chief Operating Officer

Mark Canon, General Manager
Tapad

Rachael Donnelly,
Chief Marketing Officer

Target customer

- B2B enterprise brands, agencies and platforms, including retail, financial services, healthcare, automotive, entertainment and media, travel and hospitality, and restaurant verticals.

Company overview

- 450 employees.
- Experian founded in 1996 (formerly TRW).
- Acquired Tapad, a global leader in cross-device identity resolution, in November 2020.
- Publicly traded (LON: EXPN).
- Experian Marketing Services is a division of Experian North America, which has 6,686 employees.
- Additional offices in Schaumburg, IL; Lincoln, NE; New York, NY; and Costa Rica.

Product overview

- Experian's MarketingConnect unifies fragmented data points, declared and unknown, across offline and online touchpoints to create a 360-degree view of clients' best customers and prospects. This enables marketers to reach customers across channels and measure multichannel campaign results.
- Primary marketing use cases focus on:
 - **Identity resolution:** Unifies fragmented data points using Experian's reference repository of current and historical identity from online and offline sources.
 - **Insights and analysis:** Resolved identities can be tied to Experian's consumer knowledgebase, ConsumerView, allowing brands to better understand consumers across categories, such as demographics, lifestyle, wealth and online preferences.
 - **Audience targeting:** Resolved identities are used to target consumers in the best channels, whether offline, programmatic digital display or advanced TV.
 - **Measurement:** Measurement services connect marketing campaign data to real-world actions, including website visits, app downloads, store visits and sales. Measurement is tailored to each client to help brands understand campaign effectiveness, customer journey and influence of one channel on another.
 - Experian Cloud or SaaS hosting available.

Data onboarding

- Offline/online matching through direct integrations with people-based media platforms where known consumer identities from a client's first party and Experian's third-party data are used for matching and onboarding.
- Experian enables a resilient advertising ecosystem by improving the interoperability of data and allowing connectivity between solutions so that marketers can take advantage of all the data available to them – in a secure, privacy-forward way.

Identity resolution methodology

- Experian's reference linkage repository contains 50-plus years of history, covering the

VENDOR PROFILES**Experian Marketing Services**

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U.S. population. These sources include a variety of public and proprietary sources that include both offline and online identifiers. Experian also has consumer information that is inferred from other data using statistical analysis.

- Experian's ConsumerView has coverage of 95% of U.S. population, including more than 311 million individuals and 126 million U.S. households, while retaining history of name variations, previous addresses, telephone numbers, multiple email addresses and mobile ad IDs (MAIDs) per person, representing over 10 billion combinations of consumer identities.
- Experian's consumer data starts with a base of individual-level identity, which then extends out to other levels such as household, address, device, and geo-level.
- Experian's acquisition of Tapad bridges the gap between offline and digital identity, enhances Experian's offerings in the growing Connected TV space and offers a complete identity solution.

Privacy compliance

- Experian strictly complies with data protection laws in all the countries that it operates in.
- Experian's identity services provide and limit coverage to U.S. consumers and are operated in the U.S.
- Experian is a member of self-regulatory bodies such as the ANA (Association of National Advertisers), IAB (Interactive Advertising Bureau), TAG (Trustworthy Accountability Group), NAI (Network Advertising Initiative) and DAA (Digital Advertising Alliance).
- Brands maintain ownership of their data. Customer data is partitioned from other client data and securely stored.

Analytics

- Audience on demand: Helps brands target unique segments that may not be available off the shelf.
- Lookalike modeling: Helps brands target consumers who look like their own customers (or some other desirable segment), and to achieve scale with targeting efforts. Identity, along with statistical modeling tools, underpins the ability to create these segments.
- Custom data analytics services: Teams consisting of statisticians and consultants with deep industry experience leverage both proprietary Experian and client data assets to increase client ROI.

Third-party software integration

- Experian maintains direct integrations with 150-plus activation channels, including direct mail, online, mobile, TV, digital onboarding and email. Examples include: Pandora, Samsung, Ampersand, Hulu, Cox Media and Dish Network.
- Hundreds of digital destinations, including DSPs, DMPs and digital technology providers, are accessible through onboarding partners Neustar and LiveRamp. Examples include: Adaptly, Adobe, Amobee, AOL ONE, Google AdWords, Google DV360, Celtra, Eyeota, Flashtalking, Krux, Lotame, MediaMath. Neustar: PlatformOne, Oracle Advertising (Bluekai), Sizmek, The Trade Desk, Tremor Video, TubeMogul, Videology, xAd and Xaxis.
- Experian Marketing Services' data is available in the Snowflake Data Marketplace, which enables secure, faster time to market; use of the freshest data; and reduced costs.
- Supports API integration with platforms not directly integrated.
- Operates its own pixel tags/domain for audience profiling and data collection.

VENDOR PROFILES



Experian Marketing Services

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Pricing and support

- Annual contract is not required though multi-year contracts are common.
 - Limited-time free trials are available as part of a services-based, consultative evaluation.
 - Average annual customer spend not disclosed.
 - Pricing varies based on the nature of the engagement and the combination of products and services that are utilized. Many clients pay based on transaction CPM, while others are fixed/ flat based on volume commitments.
- Onboarding time for new customers varies based on the nature of the engagement and the combination of products and services that are utilized.
 - All engagements include dedicated account and operational support. Higher levels of desired support are negotiated on a client-by-client basis.

VENDOR PROFILES



FullContact

FullContact

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Key customers

ADP
Emailage
Grubhub
Intercom
Mercedes Benz
Meredith

Key executives

Chris Harrison,
Chief Executive Officer

Ken Michie,
Chief Technology Officer

Mary Hennen, VP Marketing

Target customer

- Fortune 1000 brands and ad tech/martech/e-commerce companies.

Company overview

- Founded in 2010.
- 216 employees.
- Headquartered in Denver, Colorado.

Product overview

- Real-time identity resolution platform that connects online and offline consumer identifiers at the individual level, and enriches consumer profiles with extensive data attributes. Create the whole-person view by enriching it with multi-dimensional insights, encompassing 16 categories of data. These include individual, automotive, mobile advertising IDs, hashed emails, social, location, purchase, shopping habits, lifestyle, demographic, household, employment history, finance, company, key people and professional insights.
- Resolve any engagement, such as a transaction, a conversion, or a connection, back to a portable, omnichannel, persistent PersonID to drive omnichannel measurement and accuracy.
- Primary use cases focus on:
 - **Customer recognition:** Map anonymous website traffic across devices and sessions to customer and prospect data, and they can be located in a CRM.
 - **Real-time insights:** Drive authentic brand engagements, improved ROI and more with unique insights.
 - **Media amplification:** Extend media reach to improve ROAS.
 - **Data onboarding:** Translate offline data to an online environment.
 - **Omnichannel measurement:** Create a common view across channels.
 - **Private identity cloud:** Manage, obfuscate, and store first-party data.
 - **Private identity sharing:** Enable privacy-safe relationships and make first-party data securely available.
 - **Privacy compliance:** Enable privacy for everyone and respond to consumer data requests in real-time.
- SaaS via real-time API or batch-based data return capabilities.

Identity resolution methodology

- **Real people:** Map fragmented identities into a persistent PersonID across the enterprise and media ecosystem.
 - 247 million U.S. whole person profiles.
 - 50+ billion individual omnichannel Identifiers that span over ten different categories of Identifiers: Name & Address, Phone Numbers (business & personal), Email (business & personal), Hashed Email, Social identifiers, anonymous website identifiers, IP address, PlaceKey, PanoramaID and mobile advertising IDs.
 - 25 billion monthly data point updates and refreshes.
 - 16 categories of data including ethically-sourced personal and professional attributes on every U.S. adult consumer.
 - Over 3 billion digital identifiers, including mobile ad IDs, hashed and clear text emails, and social handles.

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FullContact

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- Real-time: Allows users to recognize customers as they engage with the brand.
 - 40 millisecond response time.
 - 30+ million updates per day.
- Control: Users can leverage the persistent identity layer embedded across the enterprise. Data is never commingled or added to FullContact's graph, and users have control over who has access to it.

Privacy compliance

- GDPR, CCPA, SOC2 Type 1, SOC2 Type 2, Payment Card Industry Data Security Standard (PCI DSS), Cloud Security Alliance, and Swiss Privacy Shield compliant.

Third-party software integration

- Platform includes API connections to most ad tech, martech (i.e. CRMs, CDPs), e-commerce platforms, workflow automation tools and systems. Examples of integrations include Adobe, Lotame, Zapier, Snowflake, SimonData, Optimove and Lytics.

Pricing and support

- FullContact's SaaS annual license pricing model is fully transparent, and is based solely on the value of matched outputs.
- Average annual customer spend not disclosed.
- Clients receive a dedicated account executive and customer success team.

VENDOR PROFILES



Infutor

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Key customers

Equifax
MQ&C Advertising
Stanford University

Key executives

Gary Walter,
Chief Executive Officer
Jeff Beard,
Chief Commercial Officer
Kevin Dean,
Chief Operating Officer
John Barnes,
Chief Technology Officer

Target customer

- Enable leading brands and the ecosystem partners that support them to leverage consumer identity data to grow their businesses by providing the best customer experiences.

Company overview

- Founded in 2003.
- 152 employees.
- Infutor was acquired by Verisk, a leading global data analytics provider, in 2022 and now operates as Infutor, a Verisk business.
- Additional U.S. office in Ft. Myers, FL; international office in Costa Rica.

Product overview

- Infutor's Identity Suite is designed to help B2C enterprises authenticate inbound contacts and enrich individual profiles to enable personalized interactions and improve conversions.
- Primary marketing use cases focus on:
 - **Identity resolution:** Enables instant identification of consumers to provide a real-time, 360-degree view. Multiple identity markers (name, address, phone, email, IP address) enable linking of first-party consumer information to drive identity resolution initiatives.
 - **Personalized marketing:** Enables instant recognition to drive lead scoring, lead routing and custom offers at the moment of engagement, improving speed to lead and conversions.
 - **Customer analytics and segmentation:** Provides an instant profile of all consumers to identify top customer personas, enabling brands to develop lookalike audiences, and engage with audiences who are most likely to convert.
- SaaS-based platform available through a proprietary real-time API, which can integrate with the end user's web browser as well as other applications such as call center software, CRMs and inbound lead forms.
 - Available through an automated batch process for large-scale CRM updating.
 - Available for on-premise licensing.
- Uses industry standard methodologies for authentication with the ability to customize requirements.

Data onboarding

- Cleanses, enriches, completes and updates offline consumer identities.
- Online matching leverages Infutor's digital device graph to match and append additional digital identity signals and core demographics.
 - Accepts hashed emails, MAIDs, and/or IP Addresses to provide demographics to enable more segmented retargeting of anonymous consumers while not revealing personally identifiable information (PII).
- Digital Solutions Suite enables digital identity signals to be appended to first-party offline data.
- Links identities with Infutor's PID (persistent ID) to provide identity relationships at the individual and household levels within and across first-party data sets.
- On-demand solutions include real-time API and large batch that can be integrated with online web forms and inbound call center software.
- Configurable match algorithm customization based on client needs.
- Match rates vary based on input data quality and type.

VENDOR PROFILES**Infutor**

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infutor.com

- Provides verification scores for companies that need to verify consumer contact information.
 - Approximately 85% of consumers processed through the Identity Suite have a high confidence verification.

Identity resolution methodology

- Compiled and owned by Infutor (including persistent linkage IDs).
- Data is permissibly sourced from hundreds of public and proprietary sources including telephone company listings and directories; real estate, deed and property data; voter registration records; POS/purchasing transactions; automotive sales and service information; federal, appellate and bankruptcy court information; and unencumbered, online transactional data that is opt in and privacy compliant.
- Deterministic identity data elements span 30-plus years of consumer history, with over 550 million phone numbers, 850 million emails and 1.4 billion current and previous consumer postal addresses linked at the individual level.
 - Probabilistic profile attribute data elements on over 266 million individuals.
- Digital device graph Includes more than 320 million mobile ad IDs (MAIDs) and 2.3 billion MAID, hashed email and IP address pairings.
 - Device graph available as on-premise license or through a suite of on-demand services including real time API capabilities.
- Digital Solution Suite includes the ability to append digital identity markers to first-party data, append additional digital identity markers to digital signals to drive cross-device promotion / measurement, and append core demographics for digital, non-PII-based segmentation and personalization.

Privacy compliance

- Compliant with: Gramm-Leach-Bliley Act (GLBA), Fair Credit Reporting Act

(FCRA), Driver's Privacy Protection Act (DPPA) and California Consumer Privacy Act (CCPA).

- Consumer opt-out form displayed on the Infutor site.
- While Infutor's data is U.S.-based only, there are processes in place to ensure that any ingested data follows the EU's GDPR.
- Brands maintain ownership of their own data.

Analytics

- Offers self-selection lookalike audiences for social and programmatic campaigns through a predictive Identity Marketplaces solution for auto, property, new mover, demographic and lifestyle-based audience targeting.

Third-party software integration

- API interface (SOAP, JSON, XML) available across most adtech and martech platforms (digital, call center, CRM, offline, etc.).
- Connections include integration through any single identity marker including PII as well as non-PII (hashed email, MAID and IP address).

Pricing and support

- Pricing is based on volume and total number of input records.
- Average annual customer spend is \$75K.
- A free data evaluation is available.
- Annual contracts are required.
- Clients can be fully operational as soon as 1-2 days after contract execution.
- Dedicated account executive and account management team for all ongoing communication and project deliverables.
- Customer support via phone, email or on-site, as determined by both Infutor and the client.
- Add-on professional consulting on product strategy and custom product development initiatives available as needed.

VENDOR PROFILES

LiveRamp
 225 Bush St.
 San Francisco, CA 94104
 T: 866-352-3267
liveramp.com

Key customers

Coca-Cola
 L'Oreal
 Whole Foods
 Lowe's
 Sephora
 Samsung

Key executives

Scott Howe,
 Chief Executive Officer
 Warren C. Jenson, President,
 CFO and Executive Managing
 Director of International
 David Pann, Chief Product Officer
 James Arra, President and Chief
 Commercial Officer

Target customer

- Fortune 5000 B2B and B2C companies in the financial services, retail, consumer packaged goods (CPG), automotive, travel and hospitality verticals, as well as the businesses that service them, including agencies, technology companies, data providers and publishers.

Company overview

- Founded in 2012.
- Approximately 1,200 employees.
- Acxiom (NASDAQ: ACXM) rebranded as LiveRamp Holdings (NYSE: RAMP) in October 2018 after selling its Acxiom Marketing Services business to Interpublic Group for \$2.3B.
- Additional U.S. offices in New York, NY; Philadelphia, PA; Seattle, WA; Little Rock, AR; and Boston. International offices in Amsterdam, London, Nantong, Paris, Sydney, Shanghai, Singapore and Tokyo.

Product overview

- LiveRamp enables companies and their partners to better connect, control and activate data to transform customer experiences and generate more valuable business outcomes. LiveRamp's interoperable and neutral infrastructure delivers end-to-end addressability for brands, agencies and publishers. LiveRamp does not buy or sell media.
 - LiveRamp's identity graph is a deterministic graph with more than 250 million consumers represented in the U.S., and many more worldwide.
 - Embedded Identity through the AbiliTec Knowledge Base, a non-discoverable database that returns an AbiliTec ID when sent PII. The Knowledge Base includes current and historic consumer data associated with people over the past 45 years, and uses a proprietary algorithm to match different representations of records such as names, addresses, phone numbers and emails.
 - Advertising Identity Infrastructure mobilizes a new digital ecosystem fueled by authentications, and built by brands, publishers, partners and individuals with privacy centrality and transparency.
 - ◆ Publishers authenticate first-party identity across the internet. Programmatic supply chain platforms bid, transact and measure on IDL versus cookie-based identifiers.
 - ◆ Marketers connect inventory to data and perform people-based targeting and measurement use cases.
- Primary marketing use cases focus on:
 - **Segmentation and targeting:** Links identities and data to enrich profiles for audience segmentation and targeting in paid and owned channels.
 - **Audience building and lookalike modeling:** Extends reach by making audiences addressable in more channels and the basis for modelling lookalike audiences.
 - **Campaign suppression:** Syncs audiences to transactions, service activity and interaction data to proactively omit customers from campaigns.
 - **Insights and measurement:** Links identities and data to enrich profiles for closed-loop measurement and to understand how to move customers through the customer life cycle.
 - **Customer preference management:** Captures consent preferences through proprietary consent and preference manager platform (Privacy Manager), match network partnerships and partnerships with external consent management platforms.

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liveramp.com

- Content and offer personalization: Applies identity and customer profile information for individualized marketing messages. Links both known and unknown identities to first-, second-, and third-party data across any channel and at any level of granularity.
- On-premise hosting currently available.

Data onboarding

- Provides online/offline matching.
- Offline data captured from CRM, customer service, loyalty, telesales, direct mail and catalog systems.
- Online data captured from display, search, affiliate, programmatic and social, as well as mobile (app or web), video, digital radio and advanced television (all forms).
- 100% authenticated deterministic matching.
- Unified anonymous and persistent ID provided.

Identity resolution methodology

- Licenses referential data from a large network of online match partners providing exact 1-to-1 matches to permissioned authentication events through de-identified traffic from over 1,000 publisher partner sites.
- Maintains hundreds of paid match partners, including 60 brands.
- Reaches 90 million U.S. households.
- 200 million unique authenticated browsers seen in last 90 days.
- 243 million authenticated mobile IDs.
- Invests 100% of company resources in building and enhancing the identity graph.
- Compiles and outputs graph as a turnkey service to other vendors.

Privacy compliance

- Privacy Impact Assessments (PIAs) and operational audits take into consideration compliance obligations under applicable laws (e.g., GDPR, HIPAA, GLBA and CCPA) and associated privacy risks.

- Has a dedicated Global Data Ethics program that protects all personally identifiable information (PII).
- Engages with industry groups, including the Digital Advertising Alliance (DAA), Internet Advertising Alliance (DAA), Internet Advertising Bureau (IAB) and Data & Marketing Association (DMA) on privacy issues.
- Brands maintain ownership of their customer data.

Analytics

- Connects siloed data to measure impact across marketing investments by translating disparate offline and online data.
- Enables identity-enabled cross-channel measurement to deliver a more connected view of the customer.
- Provides cross-screen ad measurement so TV advertisers can connect exposures to business outcomes.

Third-party software integration

- Ecosystem of more than 600 agency, publisher, data, measurement, media delivery data management platform (DMP), social, search and TV partners available via API or pre-built connectors.

Pricing and support

- SaaS-based pricing based on data volume, number of channels and types of data licensed.
- \$640K average annual customer spend.
- No free trials available.
- Annual contract required.
- Typical onboarding takes 10-30 days.
- Depending on relationship scope, dedicated and/or ticketed support is included.

VENDOR PROFILES

**Merkle**

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merkleinc.com

Key customers

SoFi
Citizens Bank
AARP
NBCUniversal Parks & Resorts
American Heart Association

Key executives

Craig Dempster,
Chief Executive Officer
John Lee, Chief Corporate
Strategy Officer
Peter Randazzo, Global Chief
Technology Officer
Dr. Simon Rice,
Data Protection Officer

Target customer

- Enterprise B2C and B2B clients spanning all major industries.

Company overview

- 9600 Employees.
- Founded in 1988.
- Merkle is a data-driven customer experience management (CXM) company that specializes in the delivery of unique, personalized customer experiences across platforms and devices. The company's heritage in data, technology, and analytics forms the foundation for its skills in understanding consumer insights that drive hyper-personalized marketing strategies.
- Merkle is headquartered in Columbia, Maryland, with 50+ additional offices throughout the US, EMEA, and APAC. In 2016, the company joined dentsu.

Product overview

- Merkurs is an enterprise identity solution that enables the growth of first-party identity and data. Components include:
 - **Merkury Identity:** Digital Consumer Recognition (DCR) is a tag-based technology that helps clients recognize anonymous digital engagers. Terrestrial Consumer Recognition (TCR) helps clients resolve offline first-party data. Both enable clients to resolve all their first-party IDs and data to a common person-based ID therefore helping build their "private identity graph."
 - **Merkury Data:** Third-party offline sourced data consisting of thousands of Merkurs proprietary and leading branded consumer data attributes pre-connected to the Merkurs ID.
 - **Merkury Connections:** Enables connectivity of the Merkurs ID to media publishers, ad-tech, and martech platforms. 40+ direct to publisher cookieless integrations and the first identity integrations with leading marketing cloud CDP solutions.
 - **Merkury Clean Room:** A privacy-safe data and analytics environment enabling clients to perform advanced segmentation, modelling, and closed-loop measurement and attribution at an individual, anonymous Merkurs ID level.

Merkurs's differentiators:

- Identify anonymous consumers post-third-party cookie deprecation to create and grow a first-party private identity graph.
- Cross-channel addressable targeting post-third-party cookie that's owned, controlled, and scaled by brands, not third-party identity providers.
- 75%+ of marketable US population able to be targeted at addressable level across premium display and TV with closed-loop measurement.
- Merkurs ID and matched data like email addresses provided to clients.
- Transparency into the quality of person-based identity with confidence scores for all matched identifiers.
- Directly integrated into Adobe's Experience Platform (AEP) and Salesforce Customer 360 (C360) CDP platforms.

VENDOR PROFILES**MERKLE****Merkle**

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merkleinc.com**Data onboarding**

- At the core of Merkury is the Terrestrial Consumer Recognition (TCR) and Digital Consumer Recognition (DCR) services.
- Both services ingest advertiser's identity signals and resolve these to a common person-based ID, the Merkury ID. For TCR, this resembles the more traditional definition of "onboarding" as with an offline CRM file. For DCR, this is recognition of anonymous site visitors, CRM, and media engagers.
- Both services result in the linkage of a first-party customer record or digital engagement to a Merkury ID, and therefore can be considered "onboarded" to the Merkury ID graph.
- Merkury can accept the following identity signals as inputs for onboarding:
 - Name and address
 - Email address or hashed email address
 - Phone number
 - Web analytics log files (while remains available)
 - Ad server impression log files (while remains available)
 - DSP or trading desk impressions logs (while remains available)
 - Device IDs
 - IP addresses
 - Browser and network signals captured by the Merkury Tag
- Second, once onboarded, Merkury provides connectivity at a person level to over 60 publishers and platforms to enable both planning and activation use cases. Called Merkury Connections, this component provides the ability to match the Merkury ID at a person level to:
 - 40+ direct publisher integrations to a person level
 - 10+ premium social media platforms and publishers like Facebook, Google, and Amazon
 - 15+ Advanced TV platforms (Addressable, Connected, Audience Based Linear, and Local/National Linear)

- 10 traditional cookie-/device-based platforms reach DMPs, DSPs, and trading desks

Identity resolution methodology

- The Merkury ID population represents the marketable US adult population of 242 million by processing person-based historical data across dozens of referential data sources and partners.
- Groups identifiers, cookies, devices, and channel IDs belonging to an individual used to facilitate matching, audience creation, and measurement.
- Supports custom database builds and "private identity graph" enablement.
- The Merkury ID is enhanced by offline third-party data, which includes thousands of attributes such as demographic, financial, auto, home, purchase, etc.
- Clients can expand the identity graph with licensed branded PII-based sources (i.e., Oracle, Experian, IRI).
- First-party digital signals (i.e. website visits, logins, media exposure and engagement) are resolved to the Merkury ID which helps clients build and grow their first-party private identity graph.

Privacy compliance

- Merkle operates globally across varying data protection and privacy-regulated areas, including CCPA and GDPR. The company offers CCPA and GDPR compliant processes for our own processing operations and those of our clients, as well as compliant processes for industry-specific regulations (i.e. FCRA).
- Merkle participates in the Digital Advertising Alliance's (DAA) AdChoices program as well as IAB and DMA.
- As a service provider, clients maintain full control and ownership of the data they provide, and Merkle operates under the direct instruction of clients.

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Analytics

- Merkurs supports two types of users from an analytics perspective:

1. Media Planners and Business Users

- The Merkurs Explorer user interface (UI) can generate insights by profiling audiences using over 10k data attributes. Automated insights reporting can be downloaded from the platform for analysis and to use in presentations.
 - The UI also has an automated machine learning-based look-alike modeling capability that has been built using Python and Apache Spark. This tool helps users understand which attributes contributed positively or negatively to an outcome variable. Users can also create an audience based on outputs and select the size based on the predictive power of the model.
 - Merkurs Explorer UI has an automated segmentation capability that allows users to find mutually exclusive segments within an audience. The tool discovers how many clusters exist in that audience, groups those clusters into segments, and understands what makes each segment unique.

2. Data Scientists

- The Merkurs clean room environment provides individual level Merkurs ID's and appended data in an anonymized and privacy safe environment.
- The data feeds include:
 - Site visitor and CRM data resolved to the Merkurs ID
 - Publisher log files resolved to the Merkurs ID
 - Merkurs third-party data (which has been licensed by clients) resolved to the Merkurs ID
 - Clients' partner second-party data resolved to the Merkurs ID
- Merkurs, client, and agency data science teams can use this data to perform a variety of analytical tasks such as:
 - Insights

- Custom propensity modeling
- Closed-loop conversion measurement
- Advanced segmentation

Third-party software integration

- Merkurs supports dozens of direct data streaming connections via RESTful APIs and pre-built partner and client connectors to major adtech and martech platforms, as well as proprietary person ID synchronizations across over 40 premium display and TV partners (see Data Activation section).
- Reaches an additional 600+ platforms via onboarding partners where person-based audiences need to be delivered for activation.
- Merkurs provides pre-built connections for marketing campaign activation:
- Adtech: Google DV360, Trade Desk, AppNexus person ID to third-party cookie synchronizations for onboarding audiences. Oracle and LiveRamp pre-built integrations as cookie onboards.
- Martech: Adobe DMP (AAM)
 - Merkurs ID to Adobe master device ID synchronization for audience matching and ID resolution.
- Proprietary Integrations: Merkurs includes pre-built, two-way ID synchronizations to 40+ premium display and TV partners. Many partners such as Pandora, Verizon Media, Meredith, Conde Nast, and Hulu include cookieless ID syncs of logged-in data (email address). Index Exchange (SSP) and MediaMath DSP ID integrations supporting addressable targeting across non-logged-in environments. Xandr (ATT/Warner) ID sync at the household level for addressable TV, comScore household level ID sync for linear TV planning.
- Media Platform Match Partnerships: API-based matching to Google, Facebook, Twitter, Snapchat, Amazon, Pinterest and others.

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Merkle

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merkleinc.com

Pricing and support

- An annual contract is required.
- A free trial is available.
- Merkury pricing is flexible and based on selected components and client use cases:
 - Identity resolution (CRM, digital records and engagement) and matching/onboarding services follow a CPM, volume-based model on input and matched records.
 - The Merkury UI and Data Clean Room UI follow an annual license fee model based on user seats and setup fees.
- Average annual customer fees range from \$100K to \$5MM+
- Onboarding time and processes vary based on selected components and customizations. Identity resolution services are typically delivered in two weeks. Additional data and analytics services require configuration ranging from two to twelve weeks.
- A range of tiered support is offered — basic operational through fully-outsourced partnership models.
- Add-on strategic business and/or technology consulting, analytics services and media services are available.

VENDOR PROFILES**Treasure Data**

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treasuredata.com

Key customers

AB InBev
Dentsu
Maruti Suzuki
Stanley Black & Decker
Subaru
US Soccer

Key executives

Kazuki Ohta, Chief Executive
Officer and Co-Founder
Dan Weirich, Chief Financial
Officer and Chief Operating
Officer
Eugene Saburi,
Chief Business Officer
Tom Treanor,
Chief Marketing Officer

Target customer

- Enterprises across all verticals in both B2C and B2B.

Company overview

- 610 Employees.
- Founded in 2011.
- Treasure Data is an independent company. In November 2021, Treasure Data received a \$234 million dollar investment from SoftBank Corp., the largest single funding round for a customer data platform to date.
- Treasure Data is based in Mountain View, California, with additional offices in Tokyo, Japan and Seoul, Korea.

Product overview

- Treasure Data's primary focus is making its CDP the data backbone to enterprise-wide customer-centricity. Treasure Data smart CDP, which includes its identity resolution capabilities, lets clients see each customer and develop a unified data, insights and engagement strategy across the enterprise. Use cases include:
 - **Powering marketing.** Advertising, campaigns and loyalty teams benefit from unified customer data and advanced analytics for segmentation, analysis of past multi-channel campaign results and journey orchestration.
 - ♦ Connecting siloed and custom systems with schemaless and flexible integrations.
 - ♦ Managing, storing and querying flexible data formats. Smart workflows prep, cleanse, transform and enrich.
 - ♦ Seeing customers across systems by resolving identities across channels and business units. Actionable customer profiles unify data, attributes and AI-powered intelligence.
 - ♦ Governing data from ingestion through usage in millions of activations.
 - ♦ Optimizing media effectiveness with suppression and high-value targeting.
 - ♦ Increasing conversions and revenue through the creation of continuous one-to-one experiences connected across digital channels, offline and in-person.
 - ♦ Increasing upsell through personalized recommendations for next best product, personal offers and best channel.
 - **Providing audience building and insights.**
 - ♦ Including RFM, MTA modeling, multivariate testing and analytics with purpose-built dashboards.
 - ♦ Identifying audiences most likely to take action through self-serve lookalike modeling.
 - ♦ Automating audience discovery with ML, and/or building dynamic audiences with any attribute.
 - **Accelerating customer-centric digital transformation.** The single source of truth connects marketing, services and sales, with relevant customer context and AI-powered recommendations.
 - ♦ Increasing CSAT & call center conversion by providing service agents with context about a customer's most recent activity and exposure to marketing campaigns.
 - **Managing complex, changing data.** The cloud big data platform combines a data lake for massive volumes with real time access and tools for data scientist productivity. The platform ingests 2 million rows/second, processes 5 Quadrillion rows/month and activates 40 Billion profiles/month.

VENDOR PROFILES**Treasure Data**

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T: (866) 899-5386
treasuredata.com

- Managing global privacy, security and organizational complexity.
- Offers granular permissions, privacy management and tools to support an organization with multiple teams in the system.

Data onboarding

- Data ingestion is schemaless (ELT) and doesn't require the typical extract, transform, load (ETL) process which forces a target schema. It makes it easy and quick to load in a wide variety of data as well as support changing data sources as marketing work with new vendors, website or mobile apps change or the business evolves.
- Additional integration options include:
 - Websites and mobile apps. Data is streamed to/from websites using a Javascript SDK and IOS/Android SDKs.
 - Applications. SDKs (Java/Ruby/Python) can be used to bring in data.
 - IOT/Server streaming. Server-side Agent or IoT device Agent streams data from Weblogs, Ad logs, access logs or IoT devices.
 - API endpoint. API endpoint can postback events or call in custom scripts (REST API and Postback AP custom webhooks, FTP, and SFTPI). Built for scale, it handles real-time event processing.
 - New direct connectors are built at the customer's request.

Identity resolution methodology

- Treasure Data unifies cross-channel customer and device data with ID unification in a first-party identity graph featuring:
 - ML-based identity resolution that supports both probabilistic and deterministic matching, parter ID and device graphs.
 - Any identifiers can be used in order to join data coming from several data sources

- Household hierarchy connects individual identities OOTB accelerators (Treasure Boxes) to connect to nearly any third-party ID graph, DMP or DSP.
- Treasure Data also partners with a wide variety of vendors Acxiom, LiveRamp, TapAd, Neustar, Allant and Experian.
- Anonymous profiles are tracked against Treasure Data first-party server side cookie, our cross domain third-party cookie, MAIDs, 2P IDs, 3P IDs from partner ID graphs, or other data (eg custom IDs, IP address), obtaining the desired identifiers for activations.

Analytics and reporting

- Self-service ML and built-in ML allow clients to forecast what comes next and how to best respond. With an unlimited lookback window and granular data across-brands and departments, marketers can utilize deep learning models to forecast Next Best Action, LTV, propensity to buy, churn, Multi-Touch-Attribution. The platform runs OOB white-box ML models or own code/models.
- Treasure Insights is a fully-featured dashboard reporting and data visualization solution which includes pre-built, out-of-the-box reports.
 - Real-time dashboards monitor real-time events and subsequent actions, identify optimization opportunities, trends, cross-channel business impact and take action.
 - Reports track key business metrics over time (e.g. sales, churn prediction, propensity to purchase, product usage, CSAT scores).
 - Visualizations of marketing KPIs such as website analytics, social media analytics, content engagement metrics (visitors, open rate, click-through rate, bounce rate) to optimize campaigns & track ROMI.
 - Attribution and campaign performance reporting providing effectiveness scores across marketing media & channels.

VENDOR PROFILES



Treasure Data

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- Integrates with most external reporting and analytics tools such as Tableau, Qlikview, Domo, Looker, PowerBI and Chartio.
- Users can set up notifications on critical KPIs or thresholds as part of workflows.

Collaboration and workflow

- Treasure Data CDP fosters collaboration as one platform provides solutions for technical data engineers, flexibility for analysts and data scientists and ease of use tools for marketing and business users.
- Built for multiple teams and brands across geographies, the CDP includes access controls which help groups focus exclusively on the data relevant for their team, whether it be a regional group, a different business unit or an organization such as marketing, sales or customer support.

Privacy and data security

- Certifications include SOC 2 Type 2, ISO/IEC 27001:2013, FISC and PrivacyMark.
- Protections for customer data:
 - Customer managed access and password configurations, such as: SSO-based authentication (over SAML 2.0) with enterprise IdPs.
 - Granular policy based permissions.
 - IP address whitelisting for entire account or user.
 - Extensive audit logging and monitoring available within the application.
 - Customer configured data masking and hashing on columns within the CDP.
 - Data in-transit and at-rest encryption via HTTPS/TLS/AES-256.
 - All infrastructure in AWS global regions to comply with industry and local privacy/data residency laws. Applicable regions include US, EU,

Japan, and Korea.

Third-party integrations

- Treasure Data is designed to connect to all components of its customers existing tech-stacks.
- Out-of-the-box, Treasure Data supports over 400+ connectors with the most common martech, ad tech and database technologies including advertising, CRM, e-commerce, DMPs, marketing automation, email, SMS, aocial media, web, IoT, cloud storage and databases.
- A full list of integrations can be found on [the company's site](https://treasuredata.com/integrations).
- Treasure Data also has an API endpoint that can be used to postback events or call in custom scripts. This endpoint is built for scale and can handle real-time event processing. Treasure Data can ingest data from various sources, including the user's browser (uploading a CSV, TSV, etc.), API (using our REST API and Postback API), custom webhooks, FTP, and SFTP.

Pricing and support

- Annual contracts are required.
- No free trial is available, but 8-week proofs of concept (POCs) are offered.
- Treasure Data is sold in a SaaS subscription model, typically for an annual term.
- License pricing model follows a tiered approach for CDP with pricing based on the number of known profiles.
- Typically, initial results are available days after data ingestion.
- Support via chat, email or emergency page is available 24x7x365 staffed with direct Treasure Data employees, in three global zones (US, Japan, and EU). SLA on response time is pricing plan dependent.
- Treasure Data also offers add-on premium support, professional services and custom integrations. Technical Account Manager plans offer enriched support.

VENDOR PROFILES



Vericast

15955 La Cantera Pkwy
San Antonio, TX 78256
www.vericast.com

Key customers

Not disclosed

Key executives

John O'Malley, Chairman and
Chief Executive Officer

Steve Albright, President

Susan Lee, Group President,
Digital Marketing & Technology
Solutions

Susan Rothwell,
Chief Revenue Officer

Target customer

- Enterprises in grocery, retail, restaurants, financial institutions, consumer packaged goods, healthcare, travel, entertainment, home services, personal services, technology, telecom and automotive.

Company overview

- Vericast was introduced as a single brand in 2020, born from unifying independent lines of business – Valassis, Harland Clarke, QuickPivot and NCH Marketing – merging digital, print, logistics and data capabilities to serve clients across multiple industries.
- More than 5,000 employees.
- Acquired digital advertising technology company MaxPoint Interactive in August 2017 for \$95M.
- Headquartered in San Antonio, Texas.
- Vericast is a marketing solutions company that helps businesses across many industry verticals, including grocery, consumer packaged goods, restaurant, retail, and financial services, connect with consumers through data, analytics, and a broad portfolio of digital and print solutions.

Product overview

- Operates as a managed service provider that uses its closed-loop, fully owned marketing platform, Illumis, to manage client advertising campaigns from start to finish.
 - Illumis connects a marketing stack of intelligence, media, optimization, and measurement offerings, and enables Vericast to execute holistic marketing programs across print and digital channels.
 - The *Vericast Consumer Graph* is the interconnected technology that fuels intelligence and insights throughout the Illumis platform.
 - Primary marketing use cases focus on identity resolution, data onboarding, persona and lookalike audience modeling, and insights and measurement.
 - The Graph onboards and matches customer lists, selects the right customers for each campaign, finds lookalike prospects, engages them across channels and closes the loop by measuring performance.
- As a managed service provider with dedicated hosting servers, data is stored on-premises.

Data onboarding

- Provides offline/online matching; can match on physical address, email address, device ID, cookie or IP address.
- Clients upload data via a secure FTP site. Any personally identifiable information (PII) is automatically removed and replaced with a unique Customer ID.
 - Proprietary automated processes match customer data to the *Vericast Consumer Graph* for media activation and enrichment.
 - Documented requirements for formatting the inbound customer list file ensure the highest possible match rates, as well as adhere to service level agreements (SLAs) for matching and activation.
- Match algorithm customization is not available. All inbound customer list files should follow Vericast guidelines.
- Match rates are 80%-plus, when matching by physical addresses.
- Confidence scoring is not provided.
- Persistent ID is provided.

VENDOR PROFILES



Vericast

15955 La Cantera Pkwy
San Antonio, TX 78256
www.vericast.com

Identity resolution methodology

- The Vericast Consumer Graph was built from the ground up to create deep connections with consumers, with more insight into their unique needs as they change and grow. It connects online and offline proprietary and third-party audience data sets, delivering holistic insights that help clients get to know and reach consumers both on and offline.
- Vericast owns its referential data.
- The Graph analyzes 110 billion daily intent signals and 33 billion daily location signals across 1.4 billion devices, as well as 2 billion offline coupon redemptions.
- Reaches 120 million households across devices, which are authenticated to its household mailing file to accurately map individuals to their homes and engage the same consumer intelligently across channels.
- The Graph anonymously connects data and devices via multiple identifiers, including device ID, cookies, IP address and lat/long coordinates, and anchors all data to the household.
- Location data comes from direct access to bid streams, as well as partnerships that acquire location activity from multiple sources including apps and beacons.
- Through advanced location techniques, each consumer identity and household is mapped to its environment including store and neighborhood for additional precision and one-to-many scale.
- Proprietary data includes interest, in-market status, predictive demographics, store visit likelihood and coupon redemptions.
- Third-party purchase and behavioral data is applied to enhance vertical targeting for CPG, retail, automotive, healthcare and financial services.

Privacy

- SOC II compliant for customer data storage for digital solutions.
- Complies with applicable privacy regulations.

- Participates in the Digital Advertising Alliance's (DAA) AdChoices program and Self-Regulatory Principles.
- Options for consumers to opt-out.
- Brands maintain ownership of their data.

Analytics

- Offers flat file enrichment along with media activation.
- Offers customer onboarding along with media activation. This includes onboarding customer lists, expanding addressable audiences via lookalike modeling, and extending engagement across all known devices via cross-channel activation.
 - Measurement and reporting are provided for these engagements, which may include audience insights, foot traffic impact or sales impact studies.

Third-party integrations

- Pre-built martech integrations with LiveRamp and Oracle; programmatic audience segments available through leading connected DSPs and trade desks.
 - Includes third-party integrations for ad serving and viewability, such as IAS, DoubleVerify, DoubleClick, Oracle Moat and Comscore.

Pricing and support

- Annual contract not required.
- No free trial available.
- Pricing based on incremental premium cost-per-thousand (CPM) impressions with CRM list targeting as part of a media buy.
- Minimum \$50K quarterly campaign spend.
- Typical onboarding time and process is between 5 and 7 days, depending on client data components.
- Client uploads data via a secure FTP site.
- Dedicated account management team works directly with clients on transfer of customer data, campaign set-up, execution and post-campaign measurement.

VENDOR PROFILES**Zeta Global**

3 Park Avenue, 33rd Floor

New York, NY 10016

T: (212) 967-5055

www.zetaglobal.com

Key customers

Not disclosed

Key executives

David A. Steinberg,
Co-Founder, Chairman and Chief
Executive Officer

John Sculley, Co-Founder,
Vice Chairman and Director

Steven Gerber, President and
Chief Operating Officer

Christopher Greiner,
Chief Financial Officer

Target audience

- Zeta's target audience includes both large (\$1 billion+ in revenue) and mid-size (\$50 million-\$1 billion in revenue) organizations.

Company overview

- Founded in 2007.
- 1000 employees.
- Over the last three years, Zeta Global has acquired surveying tool Apptness (October 2021), AI and content classification company Temnos (January 2019), DMP and DSP Sizmek (April 2019) and location data company PlacelIQ (July 2019). The company says it makes strategic acquisitions with an eye toward incorporating unique technologies into its core offering, the Zeta Marketing Platform (ZMP).
- Zeta Global Holdings Corp. (NYSE:ZETA) is a data-driven, cloud-based marketing technology company that assists its enterprise customers to acquire, grow and retain customers.
- The Zeta Marketing Platform (ZMP) is an omnichannel marketing platform built around identity data. The platform analyzes structured and unstructured data points to predict customer intent and leverage artificial intelligence to personalize experiences.
- Zeta Global is headquartered in New York City and has offices around the world, including in San Francisco, London, Paris, Hyderabad, Prague and Rio de Janeiro.

Product overview

- The Zeta Marketing Platform (ZMP) helps brands achieve their business goals by providing them with a real-time view of prospects and existing customers, leveraging AI to create personalization in every channel at depth and scale.

Use cases

- The Zeta Marketing Platform (ZMP) is a single platform with native ESP, CDP DMP, and DSP capabilities, along with the assets of Zeta's Data Cloud. Flexible integrations also enable the ZMP to inform partner technologies across channels in real-time.
- Core capabilities include:
 - Cloud technology, with native AI at its core, built to power hyper-personal messages at scale.
 - The ability to activate programs across channels.
 - Patented, exploratory AI that continually optimizes audiences, messages, offers and channels.
 - The ability to scale up to sending billions of emails with 99.9% uptime.
 - Access to Zeta Global's 750 million permission-based identities, allowing customers to map data to real individuals and achieve a single view of the customer. Additionally, Zeta supports identity management for prospects and customers based on a persistent ID.
 - Services to help marketers identify growth opportunities and achieve results.
 - A centralized data repository that lets users merge and use new data sources immediately. Customers can also enrich profiles with proprietary intent and behavioral data. The system also provides capabilities for normalization and unification.
 - Measurement and analytics, including AI-generated insights and Zeta's Opportunity Explorer.
 - Live segmentation and native omnichannel personalization capabilities.

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www.zetaglobal.com**Data onboarding**

- The ZMP has robust API and data onboarding capabilities to retrieve online and offline data in real-time to enrich customer-observed data.
- The platform connects to a range of systems to create a profile of each customer, including transactions, interests, and engagement across channels and devices.
- Marketers can leverage any structured or unstructured data source from popular CRM and ERP databases, point-of-sale systems, help desk and contact center systems, marketing/advertising software and analytics tools.
- Within ZMP it is possible to interact with external API endpoints at campaign execution time to pull in live data to drive personalization and decisioning. Once an external data source is established, it can be used through a liquid script within the campaign as if the data were local. This capability provides a way for even non-technical users to enrich triggered events with information from a wide range of sources.
- Zeta's data hygiene processes standardize, validate, correct, and parse critical elements that ensure accurate and complete profile unification.

Identity resolution methodology

- Zeta's proprietary identity graph, the Zeta Data Cloud, is, according to the company, one of the world's largest owned, deterministic data sets—collected from proprietary opt-in information, enriched in real-time by a range of offline and online signals, including up-to-the-minute identity and intent data.
- The company's baseline identity configuration is anchored on high-confidence consolidations that are easily syndicated across clients' operational ecosystem leveraging Zeta's master identity graph that cross-references to each source system's ID.
- Zeta allows clients to determine how

identities are resolved and resolution can be resolved based on unique combinations of multiple identifiers such as physical address and name (with match standards).

Privacy compliance

- Zeta has both an internal Information security team and a privacy compliance team to ensure client data is safe and properly handled.
- The company's application and web servers are behind perimeter level carrier-grade firewalls supported by Intrusion Prevention System to prevent abuse, cross-site scripting, DoS attempt, and unauthorized access.
- ZMP uses Auth0 for authentication with IP whitelisting/SSO.
- Data is encrypted at rest.
- All servers are secured with a host-based Intrusion Detection System and Sophos DLP. Endpoint protection is also installed. Workstations are protected by Sophos Endpoint protection, DLP and web content filtering.
- Zeta aligns to ISO27001, and SOC 2 Type 2 audits annually.

Analytics

- The ZMP's Analytics Central product suite offers marketers access to tools such as
- Dashboard: hundreds of factors impacting overall performance summarize relevant events with easy-to-understand data visuals, reporting sentences and actionable recommended optimizations or opportunities for further analysis.
- Report Builder: flexible, ad hoc reporting tool that allows marketers to build unique Customer Marketing, Prospect Marketing, Programmatic, Customer Data Management, and Website Overlay reports directly in the ZMP.
- Audience: a preconfigured report that gives marketers visibility into how segments are performing over time. The segments can be analyzed individually

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or compared with each other for a more comprehensive insight.

- Custom: the Custom tool allows marketers to embed reports from any Business Intelligence (BI) and/or any web-based tool directly into the ZMP.

Third-party integrations

- ZMP was designed with flexible integration options to maximize data portability. The ZMP provides two-way communication through various integration methods, from real-time (JavaScript library, API, mobile SDK), to feeds, to batch-based data integration.
- Rather than pre-creating connectors that may or may not meet clients' needs, Zeta offers Channel Manager, a tool that allows clients to configure their connections directly from open APIs using appropriate documentation.

Pricing and support

- An annual contract is required.
- No free trial or pre-purchase testing is available.
- Zeta has a flexible pricing model that can be applied depending upon the needs of the client.

- Factors include services required (retained or project-based), the complexity of integration and the number of users and records under management.

- An initial multi-year contract term is typical and may include a combination of operational and technical support, deliverability, strategy, and account management.
- Fixed/base components include an annual license fee, standard platform configurations, dedicated account service and tools. Variable components include setup fees, third-party integrations, and service engagements.
- Zeta provides both technical support and account management support to all clients. Global technical support is available 24/7 through a ticketing system or email. Clients also have a dedicated account manager and account director who manage the overall relationship. These team members are available Monday through Friday from 9 a.m. to 6 p.m.
- Zeta also offers additional services including campaign operations, marketing experience design, analytics, strategy and creative.