

Ovum Market Radar: Customer Data Platforms

Exploring the pivotal role of CDPs in the customer engagement ecosystem

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Summary

Catalyst

This Ovum Market Radar will examine the current customer data platform (CDP) market landscape in terms of its origins, key features and capabilities, trends and opportunities, and future predictions on how the category will evolve. It will also include a vendor analysis of platform capabilities that enable marketers' complete omnichannel execution, as well as profiles of the participating CDP vendors and snapshots of their capabilities.

Ovum view

Marketing organizations are moving beyond brand building to accelerating customer acquisitions, boosting engagements and lifetime value, and reducing churn. The role of the marketer has been elevated to a position that is focused on business outcomes. By connecting operational and customer data, insights, and experiences, marketers are better equipped to monitor, manage, and respond to the end-to-end customer journey.

Such holistic engagement requires moving beyond acquiring new customers to delivering an experience at every step of the customer life cycle. Success depends not just on accessing the data from first- and third-party sources, but also from orchestrating the appropriate actions across all channels at the right time. Customer Data Platforms (CDPs) have emerged in recent years to help marketers, and a growing number of other key customer enterprise stakeholders, manage their data by aggregating, analyzing it, and bubbling up insights into one place.

However, moving beyond campaign-centric marketing initiatives to CX-led strategies requires understanding the metrics that matter, communicating the value to the broader business and stakeholders, and building a foundation of insights culled from the combination of first- and third-party data and made accessible across business units. Then enterprises will be able to engage with customers based on their needs. In achieving this synchronicity, enterprises will be able to proactively and predictively orchestrate omnichannel experiences that motivate consumers in the channel of their choice.

To succeed in this new continuum, marketers need CDPs that not only help distill information about their customers to understand their buying journeys, but also proactively orchestrate relevant offers and communications at the right times and places in their journeys. As enterprises acknowledge the need for customer engagement platforms that span the enterprise and enable end-to-end engagement, CDPs will expand in two ways: First, they will evolve from integrated databases of customer insights to more robust intelligent engagement platforms that serve as systems of record that also orchestrate real-time, personalized offers, content, and guided assistance. Second, CDPs will also stretch outside the walls of marketing to other functional areas like service, sales, and even back-office operations where having the ability to act on consolidated, real-time data is critical.

This Ovum Market Radar will look at how CDPs are progressing in this direction, explain the business benefits of CDPs, and examine the current market landscape by profiling the leading vendors and reviewing the platform capabilities that enable marketers' complete omnichannel execution. The research will also consider the future scenario of how marketing optimization, customer service, and customer engagement platforms will intersect.

Key messages

- CDPs serve as the digital nervous system for real-time, personalized, multichannel marketing and customer engagement.
- CDP feature sets are expansive, diverse.
- Don't confuse CDPs with data management platforms.
- CDPs enable real-time, proactive multi-channel engagement.
- Centralized and accessible data creates employee empowerment.
- Complexity surrounds the CDP category.
- CDPs will pivot to enterprises systems of record and engagement.
- Cloud vendors are launching their own CDPs.
- CDPs are the next evolution of marketing automation platforms.
- The CDP terminology will change.
- The market will experience growth and consolidation.
- Vendors will increase AI-driven micro-segmentation.
- Vendors will rush to develop data governance frameworks.
- Investments will evolve into IT-driven initiatives.
- Ingestion of data must expand to new sources.

Recommendations

Recommendations for enterprises

Not all CDPs are alike. Some concentrate on data ingestion, some on data management and journey mapping, and others on orchestration or engagement. One thing remains the same across all platforms: they must be able to manage the scale of the CX data expanding from new sources such as the Internet of Things (IoT) and connected devices rather than just website clicks and transactional histories. CDP vendors must also have the capabilities to analyze these expanding data sets in real time to enable relevant interactions and proactive engagements.

As enterprises build the business case for a CDP, they must understand the ins and outs of connecting and extracting data from the system. If a CDP can't connect to specific systems or fails to store historical data in a way that persists then that CDP may ultimately not improve marketing KPIs.

Before investing in a CDP, start with what the enterprise needs to accomplish and work backward. Enterprises must read through various use cases to help determine specific outcomes and then pinpoint the roadblocks that are preventing such accomplishments from occurring. Determine both the immediate and long-term use cases for a CDP and outline the impact on the business. Then document the people, processes, and technologies that are potentially involved. Finally, determine the gaps the CDP is expected to fill and how it will achieve that, and then include a timeline and roadmap for the future. Considerations for the potential of a CDP to scale across an enterprise to include functional areas outside the realm of marketing should be made. Once they complete this due diligence, enterprises should create an operational plan for who will use the tool both internally and externally and identify skill shortages.

Recommendations for vendors

CDPs have a starring role to play in proactive and personalized omnichannel customer engagement. Vendors across various categories recognize the value in offering a CDP so everyone from traditional ERP vendors to marketing automation vendors are entering the category. As a result, the market is getting crowded, which is causing an overlap of numerous applications and ultimately confusion among enterprise clients. It's for this reason that enterprises need to understand the capabilities and limitations of CDPs and how best to judge whether a solution fits their needs or not. Enterprises want practical solutions to a set of real-world use cases. Vendors that focus on the outcomes rather than specific classification will distinguish themselves to successfully compete in this category. By focusing on core outcomes (see Figure 1), prospective enterprise clients will gain a clear understanding of how CDPs will help them achieve their goals.

Figure 1: CDPs should enable four primary outcomes



Source: Ovum

This starts with effectively training the sales teams and systems integrators to also focus on the business benefits a CDP will bring rather than just the technology itself.

Defining and exploring CDPs

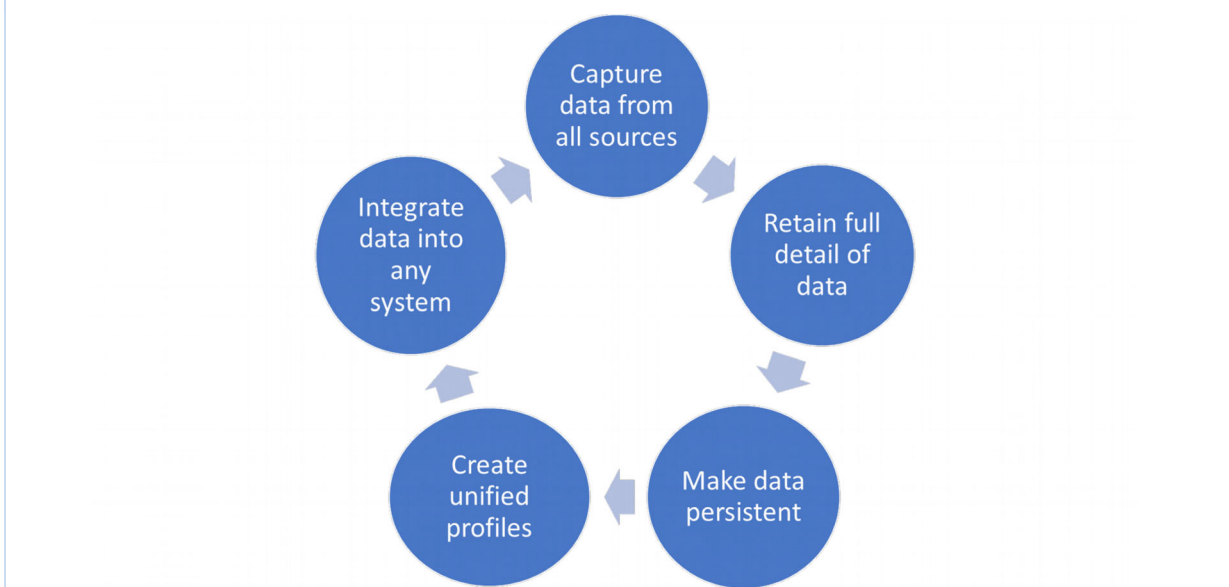
Definition and characteristics

The recent growth and interest in CDPs has created complexity in the marketplace. As vendors from a variety of classifications ranging from tag management to website optimization and journey analytics enter the category, the market will continue to bulge. Consequently, the process of defining customer data platforms will continue to confound consultants, analysts, and enterprise customers. At a high level, CDPs solve perhaps the most pernicious problem facing marketing: how to unify siloed customer data into an easily accessible and regularly updated golden customer record. This new generation of systems is designed to bring myriad disparate data about customers that includes data from every source and type into a single intelligent environment, providing a synchronized, well-integrated view of the customer. In enabling and providing this unified, real-time customer record,

CDPs essentially serve as the digital nervous system for real-time, personalized, multichannel marketing and customer engagement.

According to David Raab, founder of the CDP Institute, there are five definitive and essential characteristics of a CDP (see Figure 2): CDPs create a persistent, unified customer database and a single view of each customer by capturing data from multiple systems, linking information related to the same customer, and storing the information to track behavior over time.

Figure 2: CDPs must offer these five capabilities



Source: CDP Institute

CDPs also should contain personal identifiers used to target marketing messages and track individual-level marketing results. Finally, they should be accessible to other systems for analysis and management of customer interactions.

Captures data from all sources

CDPs should integrate into a variety of data sources (both structured and unstructured) and work with different data sets and types (anonymous and pseudonymous data) transforming the resulting insights into useful formats. They achieve this by drawing on records from multiple internal or external sources including known PII (personal identifiable information), streaming data, third-party data, as well as historical data from all stages of the customer journey. These customer journey sources might include sessions; user-level data; marketing identity such as email cookies, cell phone numbers, purchase history, website trackers, social media profiles, emails, CRM data; and even feeds from VoC systems and contact centers, which allow them to determine users' sentiment or if they have open tickets. Some CDPs also incorporate native surveying capabilities, making response gathering, storage, analysis, and action a more seamless experience. This data builds the foundation of each customer profile in a CDP and allows businesses to uniquely identify each customer.

In some cases, a process of data discovery allows a CDP to translate individual data points into a usable format and identify different patterns. Within a context of CDPs, data discovery algorithms can highlight key interactions from customer communications, extract them from the broader dataset, and update profiles with relevant information. Once this is complete, the data can be subjected to

behavioral analysis to measure the customer's engagement and predict future steps in the buyer's journey.

Retains full detail of data

Each new data element should be linked under a profile's unique identifier for later retrieval. CDP profiles can be accessed by other systems on the same network, usually when managing customer interactions or conducting analysis. True CDPs should retain data over a long period of time to build in-depth, accurate customer profiles and nurture relationships. Data management platforms (DMPs) on the other hand, typically retain data for a short period of time to target ads and build lookalike audiences.

Makes data persistent

A CDP creates a comprehensive view of each customer by capturing data from multiple systems, linking information from those systems related to the same customer and storing the information to track behavior over time. In doing so, a CDP houses personal identifiers used to target marketing messages and track individual-level marketing results.

These persistent IDs assign each customer/prospect an internal identifier like a web browsing ID, device ID, cookie ID, or name, and maintain it over time despite changes or multiple versions of other identifiers, such as email address or phone number. This allows the CDP to maintain individual history over time. Even when source systems might discard old identifiers, the data should not automatically expire. Additionally, marketers typically should gain control of any expiration or deletion of data based on their needs.

Creates unified profiles from the data

Customers today use so many different channels to interact with brands that if the information on those channels isn't carefully tracked and associated with a single unified profile for each customer, it often results in multiple identities for the same customer and a failure to "connect the dots."

CDPs help create an identity master for every user, known and unknown, and many also add several key attributes for segmentation, attribution, and user conversion. These attributes include cookie ID, global cookie ID, IP address, UTM parameters (tracking tags at the ends of URLs), custom attributes, website metadata (description, titles, etc.), and many other fields.

After CDPs resolve the identities of known and unknown customers and visitors they must be able to create universal and persistent consumer profiles and assign persistent identifiers. Then they must leverage appropriate approaches (deterministic and probabilistic matching) to connect information about the individuals.

Deterministic matching stores multiple identifiers known to belong to the same person and links them to a shared ID (typically the persistent ID). This helps a CDP to connect identifiers directly. For example, this provides the ability to link activity conducted on a mobile device to a specific account.

Probabilistic matching applies statistical methods and rules to associate multiple identifiers that appear to relate to the same person. For example, linking the usage of apps registered to the same IP address across devices.

Then by layering on descriptive data such as lifestyle and career information, quantitative data such as transactional and online activity, and qualitative data such as surveys and NPS, enterprises can

enrich the data by expanding and deepening the identities to form a more complete picture. This enables interesting analysis and insights and informs future campaigns and engagement strategies.

These IDs get stitched together through a graph database into a known customer profile, based on the unification rules configured within the customer data platform. The resulting customer profiles, or golden customer records, represent a holistic view of customers' behaviors and transactions.

Integrates data into any system

Marketers inevitably use a variety of systems to design, orchestrate, and measure customer experiences. Many of these systems manage customer-level data of one sort or another, and many still offer a suite of applications or integrations with other platforms to deliver multichannel campaigns. At the same time, CDPs are filling a critical missing role in enterprise technology stacks because of the ability to collect data in real time, activate it into different channels, ingest it back through the CDP, and then integrate it via an integration engine or API gateway into data warehousing solutions like business intelligence and data management platforms; marketing automation stacks, such as email marketing, affiliate stacks, and advertising, as well as analytics like A/B testing, attribution modeling, and conversion tracking.

Don't confuse CDPs with data management platforms

CDPs differ from traditional data management technologies, such as data warehouses which collect only summary data. The core difference between a CDP and data management platform (DMP) lies in the CDP's ability to make complete and linked customer data easily accessible to the business at real-time speeds and ever-expanding digital requirements.

DMPs are traditionally third-party data aggregators and consist of behavioral data purchased from publishers. They are essentially marketing data stores but are narrower in focus. Although they collect anonymous data from the web and other digital sources to show the big-picture patterns and demographics driving customer decisions, they rarely handle first-party data (i.e., data a firm has collected about its own audience). They are concerned with high-volume, top-of-the-funnel data. CDPs, on the other hand, handle middle-of-the-funnel data and customer conversion.

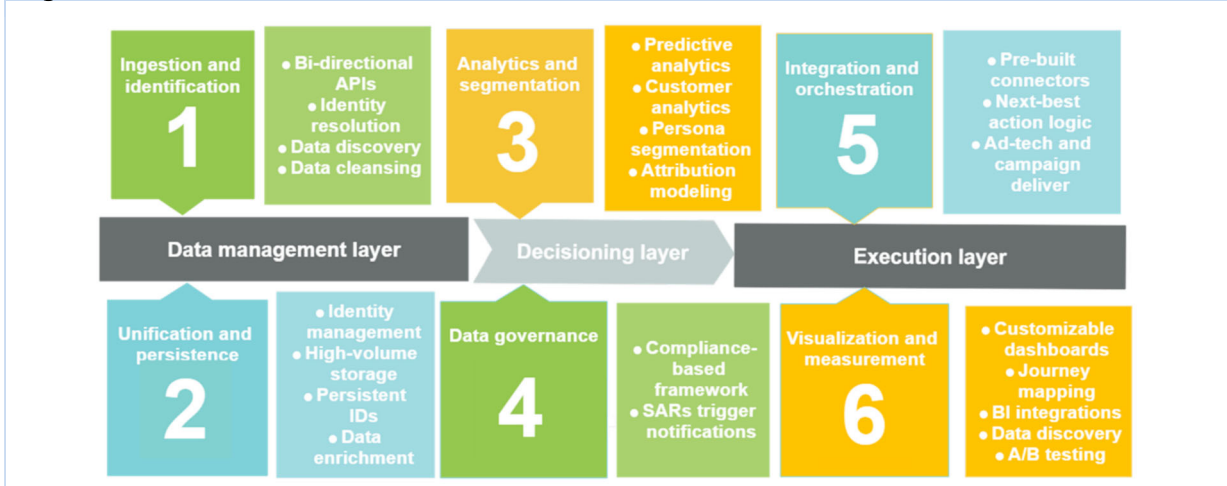
Key capabilities

CDP feature sets and capabilities are expansive, diverse

The right CDP can provide a foundation for future marketing innovation by connecting and unifying multiple data sources and empowering key stakeholders along the customer journey to drive personalization at scale by leveraging individual customers' comprehensive profiles.

The CDP market is becoming diverse, from legacy vendors who got their start in tag management to customer journey analytics vendors crowding the category. Ovum has established a set of criteria that includes 11 core capabilities (see Figure 3) within six key areas.

Figure 3: Ovum has identified six areas of criteria for CDPs



Source: Ovum

Ingestion and identification

Data collection and maintenance is a core CDP function. Virtually all CDPs provide a central database that collects and integrates personally identifiable customer data across the enterprise. In data collection, some systems can ingest data other systems generate. A foundational CDP should offer an array of APIs, SDKs, and other tools that allow enterprises to obtain data in real-time to keep pace with the speed of the customer. Others can generate data by way of APIs, or inclusion of SDKs, etc. From there, however, CDPs vary in their abilities to manage the following:

- **Identity resolution.** The process of "stitching" together customer data points from various channels into a single customer profile.
- **Data quality.** Data cleansing and validation, match merging, deduping.
- **Standardization of online/offline data.** The platform uses email addresses, phone numbers, and postal addresses to clean and standardize customer records.
- **Management of structured/unstructured data.** Most, but not all CDPs, manage unstructured data (i.e., social media feeds, product photos, barcodes).
- **Mobile data ingestion.** Several CDPs offer software development kits (SDKs) to load data from mobile apps directly into the central database.

Unification and persistence

Unifying data to make it actionable is the foundational and arguably most critical capability of a customer data platform. These capabilities should be core to CDPs. Numerous capabilities include customer recognition across channels and devices, various approaches to linking, profile management, identity graph management, online data processing (structured/unstructured, anonymous/known), data storage, and regulated data requirement. Some CDPs rely on event stream databases to associate identities through a graph while others stitch together actual profiles stores in a high-volume database like NoSQL.

Analytics and segmentation

A growing number of CDP vendors offer features that allow marketing end-users to define and create customer segments, track customers across channels, and glean insights from customer behaviors and trends. They comprise machine learning (ML) and business rules for real-time decisioning. The

specific tools provided can include segmentation tools, predictive models, revenue attribution modeling, and customer journey analytics. The CDP often automates the distribution of the customer segments on a user-defined schedule to native as well as external martech systems such as marketing automation platforms and email service providers for campaign execution.

Data governance

Last year's General Data Protection Regulation (GDPR) and the forthcoming California Consumer Privacy Act (CCPA), which goes into effect January 2020, have prompted the need for enterprises to gain trusted data security and privacy controls as well as consolidated governance of known and unknown data. The CCPA is a consumer directed law that empowers them to determine how a business can store, retain and use their personal information through a set of rights about the personal information that businesses collect about them.

To meet the requirements of privacy rules such as GDPR and CCPA, enterprises must offer a data governance framework that conducts profile governance for known and unknown identifiers, as well as privacy controls to manage customer consent, data access, correction, and erasure while managing customer data changes across multiple enterprise systems.

To comply, CDPs should be prepared to process data access requests and provide APIs to support data deletion at the user level. CDP leaders should offer an enterprise GDPR and CCPA compliance framework and a range of methods to gain control over data flow, as well as the ability to map a control to multiple regulatory standards. Additional features may include tools to manage compliance and regulatory change, controls to monitor and respond to subject access requests (SARs), forwarding rules based on data types, values, identities, audience membership, and regulatory reporting to monitor compliance gaps. The use of ML to identify and redact data requests is also beneficial.

Integration and orchestration

Providing access to the data back through other enterprise systems is becoming vital, as only then can key stakeholders along the value chain visualize and act on the data. Therefore, the scope and scale of bi-directional connectors and APIs offerings oftentimes is the driver of CDP growth. Bi-directional data flows are proving fundamental to enabling the orchestration piece of CDPs because they provide feedback loops from various downstream systems. That way, for example, a marketer can intelligently optimize conversion paths based on where they are most likely to respond.

Delivery of a specific engagement is becoming one of the more critical components of a customer data platform, as more enterprises also want the tools to activate the data, not just unify it. A select group of CDPs include orchestration logic or complex triggering rules to provide campaign management, web optimization, and customer journey orchestration capabilities that enable personalized messaging, dynamic web, and email content recommendations, as well as personalized campaigns that trigger targeted ads and content across multiple channels. For example, a CDP could deliver targeted content to a web visitor during a live interaction. To achieve this, the CDP must accept input about visitor behavior from the customer-facing system, find the customer profile within its database, select the appropriate content, and send the results back to the customer-facing system.

Measurement and visualization

CDPs should enable visualization of journey stages to drive customer interactions and view gaps in experience. Such visualizations should enable adaptations of customer behavior along the journey stages to uncover what's working and map out next-best actions to occur at key moments.

Visualization of data now goes beyond traditional static reports. BI visualizations mostly automatically generate geographical maps, pivot-tables, and heat maps to present data discoveries for customer profiles and offer the ability to explore and drill down into the data to make real-time decisions. Until recently, this process was performed manually. Many CDPs also integrate out-of-the-box connections to different business intelligence tools like Tableau, Azure, and Google Analytics to access even granular insights.

Through AI systems to conduct data discovery, enterprises can also locate patterns and identify key interactions from the broader dataset, generate actionable insights, and update the customer profiles and visualization tools in real time.

Business value and applications

CDPs enable real-time, proactive multi-channel engagement

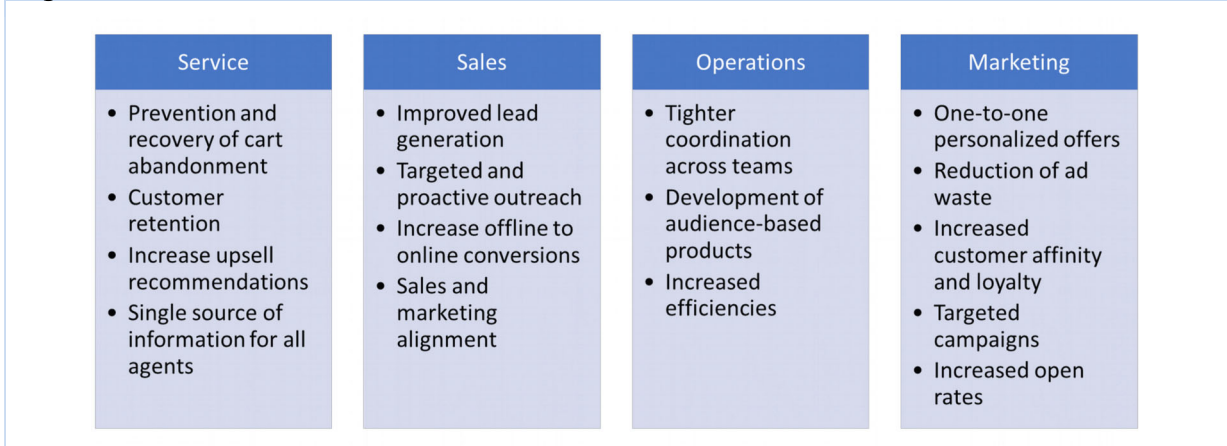
A CDP deployment has the potential to yield huge gains across the organization, not just in improving KPIs but also in increasing operational efficiencies. It can provide incremental lift by orchestrating individualized marketing for every stage of the customer lifecycle. It can also create a holistic window into customers' behaviors and activities to offer personalized and proactive service across customer support functions.

CDPs synthesize the data and extend the value of that synthesis across the business. They join the employees who interact with customers throughout an enterprise and present real-time insights and cohesive journeys on individual customers. A CDP democratizes customer data by providing access to it across organizational departments and customer touchpoints. Marketing, business intelligence, and customer service (and beyond) all depend on the availability of data to drive the business forward.

CDPs provide unified, real-time insights from a variety of sources. Such sources include contact center interactions, connected device data, product usage data, sales data, mobile apps, customer life cycle trends, websites, social media, and email. As CDPs draw in data from a wide variety of sources like IoT sensors, marketers will get behavioral data that wasn't accessible until now. They should gain increased knowledge on how customers are using their products. In doing so, they fulfill goals like increasing their click-through rates, returning on ad spend, improving email open rates and time on page, lowering CPL or CPA, and improving conversion rates.

CDPs' ability to produce targeted insights will enable fundamental improvements in business outcomes (see Figure 4) measured by gains in operational efficiency and speed to market, the monetization of new and existing audiences, and measurable gains in the effectiveness of interactions and experiences.

Figure 4: CDPs deliver end-to-end business outcomes



Source: Ovum

CDPs can also improve compliance with existing and emerging data privacy regulations, such as GDPR and the CCPA. Such laws often require companies to afford consumers the right to access their data and to have it erased (the "right to be forgotten"). Meeting these requirements can be a burden when different consumer data resides in different systems.

Ultimately, CDPs pave the way to greater personalization and delivery of a superior customer experience. They streamline omnichannel marketing orchestration and create micro-segmentation for hyper-personalization. With a honed understanding of customers' needs, as well as the ability to anticipate future actions, there's a higher likelihood that customers will become repeat customers, driving customer loyalty and increased revenue.

Market landscape and participants

Market origin and dynamics

According to the CDP Institute, the term "Customer Data Platform" was coined in 2013 to describe several types of marketing systems that shared the ability to build a unified customer database. Most of these systems created the databases to support applications such as predictive modeling, attribution, web site personalization, or campaign management. Over time, many vendors recognized that their databases could also be used by other applications. These vendors added features to allow access by other systems, converting their systems into the CDPs of today that offer the capabilities that contribute to the CDP Institute's five defining criteria. During the same period, several vendors including campaign management, customer success technology, web analytics, and tag management providers recognized they could modify their data-gathering systems to create the persistent databases that would become the CDPs of today.

In 2013, Raab, who worked as a marketing consultant for 30 years, noticed that these vendors were starting to build their own customer databases. He therefore named the CDP category and while there was an initial slow start, vendors ramped up the use of the CDP nomenclature in 2016 as the need for unified data from data warehouses, data lakes, CRM, and DMPs started becoming a business-critical need.

Today these platforms are converging from three main areas: data management, journey mapping and customer analytics, and revenue attribution. The category is witnessing widespread adoption across enterprises, as supported by the Forbes Insights/Treasure Data survey. According to the most recent survey, some 78% of organizations either have, or are developing, a CDP. Additionally, the CDP Institute reports an expansion of the industry in the first half of 2019, reaching 96 vendors, 9,206 employees, and \$2.4bn in funding.

Key trends in the CDP market

Complexity surrounds the CDP category

The five criteria of a CDP serve as a foundational starting point, but most CDPs now offer some fraction above and beyond those five pieces. Several tangential categories are creating confusion in the market. Categories including multichannel marketing hubs, a personalization platform or digital experience platform, journey orchestration and mapping platforms, customer intelligent platforms, customer engagement hubs, and ERP vendors. This puts pureplay CDP vendors in a tough spot of delineating their capabilities and redefining the marketplace.

Enterprises tend to disregard the classification of a platform; they just want practical solutions to a set of real-world cases like how to personalize offers in a timely manner or how to analyze customer data to determine the most relevant offer. Depending on the outcomes they see, they will determine the kind of platform required to achieve their desired goals.

The CDP rivalry among the enterprise software vendors heats up

Adobe, Oracle, Salesforce, Teradata, and SAP have officially stepped into the ring, announcing various stages of progress with their CDP products. Teradata announced its CDP on October 22. SAP announced its enterprise grade CDP in May but said it will go general availability (GA) in 2020 (SAP declined to participate in this research). Adobe's will go GA this fall. Oracle's will go GA in 1Q20, and Salesforce will go GA in June 2020. Their entries into the category will majorly impact the CDP industry, solidifying the category and raising awareness around the growing importance of CDPs.

Despite the race to launch their own CDPs, it could take years for the enterprise players to catch up to the established pureplay CDPs, which remain agile and platform agnostic. Conversely, they will inevitably take business from the smaller CDPs in the long-run.

Centralized and accessible data creates employee empowerment

The single goal of CDPs bringing relevant data together into a holistic 360-degree view on the customer has expanded. Today's CDPs also serve as the catalyst for employee empowerment. Marketers have always had to rely on data analysts and scientists to get audiences and required data for setting up campaigns – a common source of frustration. CDPs empower them by putting data at their fingertips and personally enabling them to provide relevant experiences to the customer in a scalable way.

Future market development

CDPs will pivot to enterprises systems of record and engagement

The future belongs to brands that can deliver an intelligent, contextual, and real-time data-driven human experience that connects customers with what matters most. Consequently, Ovum predicts a

continued evolution toward CDPs serving as the systems of record and engagement for intelligent customer engagement across enterprises.

Most of the CDP vendors, however, are currently focused on the application of data for marketing rather than serving as an integrated data platform, but that will change. Converting customers and growing revenue while building advocacy is impacted by more than just marketing. It also means having the ability to visualize journeys and collaborate cross functionally from the same work streams with other internal key stakeholders from the back office to customer support.

Enterprises are realizing that limiting CDPs to solely solving their marketing challenges misses the bigger picture because it presents a siloed view of customers. The move to connect all functional areas along an enterprise to customer journeys will accelerate, which means customer data platforms must also evolve. In fact, according to Ovum's *ICT Enterprise Insights 2019/20*, 50% of respondents said they were either in the early stages or in progress of exploiting data across the business, so growth is inevitable as enterprises adopt the technologies and platforms to create a connective tissue for data to stream end-to-end.

As a result of this shift, the next generation of CDPs will include many advanced capabilities and cover a wide range of use cases, from omnichannel marketing campaigns and next-best prediction for sales teams to real-time customer outreach and streamlined revenue operations for both B2B and B2C brands. One India-based retailer, for example, is engaged in a pilot program using a vendor's CDP to send individual clothing preference and size information to in-store associates via mobile devices for customers shopping in the stores to help them make tailored inventory suggestions.

CDPs are the next evolution of marketing automation platforms

Ovum predicts that the first phase of CDPs will link sub-systems or suites of marketing cloud products with discreet sets of functionalities, to one marketing automation platform that spans data management to orchestration. Marketing automation platforms were originally designed to store a limited amount of data. Some stored web behaviors but weren't designed to import purchase data or service information. Until recently they used email as an identifier for customers and that approach doesn't work for a general customer profile. Today they are one of many spokes in the CDP hub, however some CDPs now go beyond building the database to conducting customer segmentation and tailored cross-channel marketing.

The CDP terminology will change

Many vendors are already preparing for the shift to enterprise engagement, bolting on orchestration functionality and integrating into enterprise systems, including service, sales, and commerce. Once these developments take stronger hold, current CDP terminology will not reflect the evolving platforms so therefore may have to change to a nomenclature that reflects something analogous to customer engagement platforms. Some vendors have recently rebranded their platforms. NGData, for example, has renamed its CDP "Intelligent Engagement Platform," Optimove has named its CDP a "Relationship Marketing Hub," and Oracle refers to its CX Unity platform as an "Intelligent Customer Platform." These decisions will inevitably help create distinction in the market. This will give rise to custom CDPs, tailored to solving individual challenges that customers are facing. The future market leaders will be the CDPs that are able to clearly position themselves according to the problems solved and outcomes achieved.

The market will experience growth and consolidation

Increasing demand for real-time data is major factor expected to drive growth of the global CDP market. In addition, heightened demand for omni-channel experience and actionable insights are the other major factors expected to boost the growth of the global CDP market over the next 18 months and spur acquisitions.

Ovum inevitably foresees a consolidation in the CDP market brought on by a burgeoning category, not only from other software vendors, but also from the enterprise side. Mastercard, for example, acquired SessionM in October to complement its data-driven services and drive greater loyalty. Growth is occurring so rapidly that it is difficult to predict who will emerge the clear winners defined by those that will provide robust and compatible platforms and a growing customer base.

Vendors will increase AI-driven micro-segmentation

Another evolution of CDPs will layer on intelligence that uses ML and AI capabilities for predictive models and recommendations, producing more powerful, actionable insights. It will share insights with other systems, not only marketing systems, and they will leverage the data for sales and customer service functions with more intelligence. With AI at the core of a CDP and central to the applications that predict and prescribe next-best experience, CDPs will do more than simply find the next-best action or the optimal audience. With proper business context, AI can identify touchpoints and tactics which shape the customer behaviors behind the business's primary measures of performance. This increased communication of data and intelligence among CDPs and other systems will open new opportunities such as omnichannel attribution, through which marketers can identify and compare the results of marketing campaigns among multiple channels. They will also make better predictions on activities happening across the customer journey, suggest recommendations on next best steps, or enable automation throughout the engagement process.

Vendors will rush to develop deeper and wider data governance frameworks

With the advent of the CCPA in January 2020, brands will require extensive frameworks to manage individual consent and privacy preferences. CDPs are inherently designed for consent management, as they can store data in individual-level profiles, but not all CDPs are built to be compliant with regulations and privacy laws. For example, CDPs that don't store data persistently (i.e., if data deletes after 30 days for storage reasons), will not comply with laws that enforce brands to keep a record of consumers who have not consented to specific data-sharing practices.

Investments will evolve into IT-driven initiatives

CTOs and CIOs across all industries are realizing the valuable currency of consolidated data and are therefore viewing CDPs as an infrastructure platform. Subsequently, the market will experience a shift out of the siloed realm of marketing line of business to more of an enterprise IT-driven initiative.

Ingestion of data will expand to new sources

CDPs will evolve beyond data management and ingest more data sources. CDPs of the future will possess agility to bring in data from any new data source that emerges and integrate the resulting insights with any enterprise applications wanting to use the data.

Vendor landscape

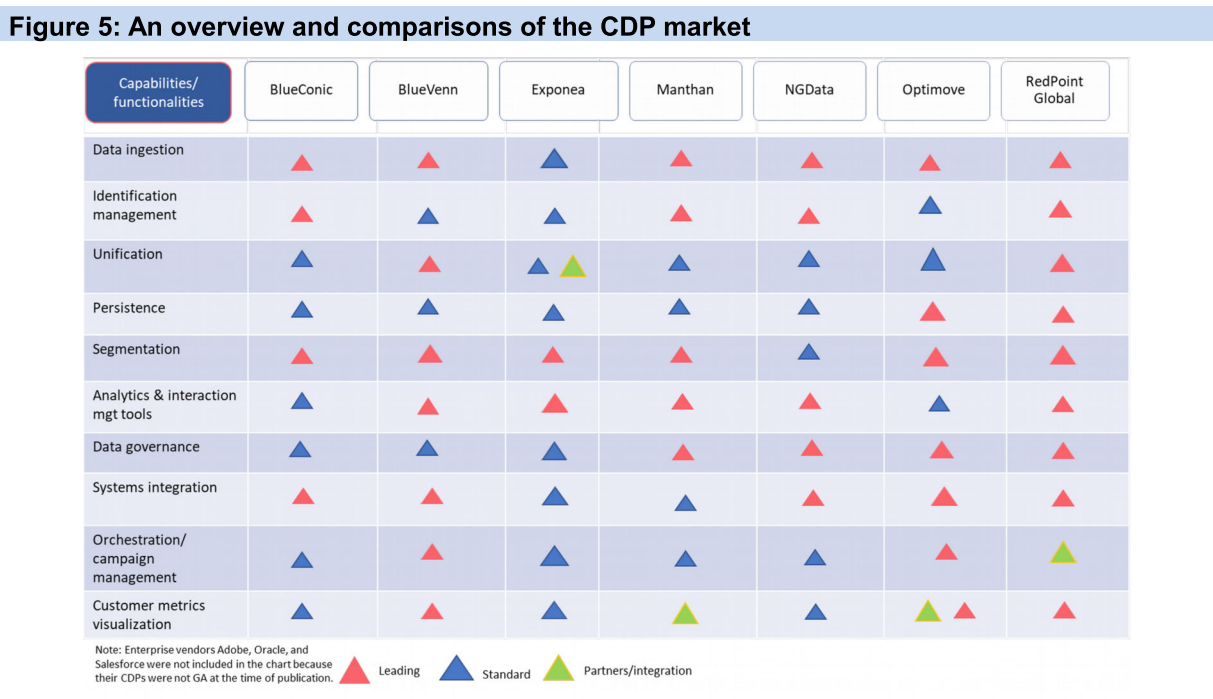
The CDP industry continued to expand in the first half of 2019, reaching 96 vendors, 9,206 employees, and \$2.4bn in funding, according to the CDP Institute. The CDP market is also expected

to generate \$1bn in revenue this year, as both employment and the number of CDP vendors doubled from last year.

Growth in the CDP industry shifted sharply in first half of 2019 toward multi-function CDPs and to companies outside the United States. A handful of large, campaign-type CDPs outside the U.S. generated most of the employment increase and several operational systems with CDP capabilities were added to the mix. Operational CDPs are primarily customer-facing systems that include a CDP capability. They will take an increasingly prominent role in the industry as enterprise vendors including Salesforce, Adobe, and Oracle add their own CDPs.

With close to 100 vendors that now go to market as CDPs, the CDP market landscape can be complex and difficult to navigate. Many CDP point solutions are in fact existing software, repurposed to be positioned as customer data platforms.

The following vendors represent a snapshot of the participating companies. Ovum included them based on their breadth and depth of technologies, global reach, enterprise customer bases, and formal recognition by the CDP Institute.



Source: Ovum

Customer Data Platform vendors in the Ovum Market Radar

On the Radar: BlueConic

Ovum view

BlueConic makes first-party data accessible by collecting it from across marketing technologies, storing it in individual profiles, allowing marketers to create real-time segments based on attributes

within the profile, then "activating" those segments by sending them to systems like email platforms and on-site personalization tools.

Key messages

- BlueConic captures data from all sources and stores data in a unified profile. The data is available in real-time upon capture/ingestion for immediate segmentation and activation.
- AI workbench provides an environment to build, train, and deploy predictive models across the profile database.
- The platform stores persistent, person-level data in a server-side NoSQL profile database.
- BlueConic offers end-to-end consent management built right into the platform.
- For 2019, BlueConic has reported a 33% increase in enterprise customer wins.

Why put BlueConic on your radar?

BlueConic has been focused on solving the challenges of data access specific to the marketing organization since its inception in 2010. Its platform's intuitive interface for segmentation, data collection, and activation appeals to marketers. Data privacy is core to the platform, and its architecture scales so marketers don't get locked in to specific data schemas. The company also provides a roadmap to expand its use cases over time.

Highlights

BlueConic's platform capabilities align with Ovum's recommended CDP proficiencies in the following ways:

Ingestion and identity

BlueConic captures data from any source and makes it available upon capture/ingestion for segmentation in real-time. Its goal is to make customer data from across all phases of the customer lifecycle useful to the marketer. To do so, it offers transparency and access into the data collected, cross-brand and cross-system data unification and distribution, no data collection preference, the ability to store data at an individual-level and identity resolution capabilities.

The vendor bases all profile merges (rules-based merges) on deterministic data matches using a customer's preferred identifier. For probabilistic identity stitching, customers can deploy their own models through BlueConic's AI workbench. In this approach, any BlueConic datapoint (behavior, device ID, geolocation etc.) can be used to calculate a probability score on different anonymous profiles belonging to the same user. After having met a desired threshold, single profiles can be assigned a unique ID for which the out-of-the-box BlueConic deterministic rules can be applied.

BlueConic combines initial and subsequent activities on a website, mobile app, contact center, or other touch points with campaign data (e.g., segment, sociological, and geographical information) in profiles with cues derived from onsite behavior (e.g., onsite search, form input, and clickstreams). Interest ranking also allows enterprises to add interests (keywords) to a profile property on a points-based system. Points for an interest are scored based on behavior.

Analytics and segmentation

BlueConic customers can use AI workbench to import any model from another system or select from a gallery of models such as customer lifetime value, propensity scoring, uplift models, and more. By bringing these models into BlueConic, data scientists/marketers can act on model outputs in near real-time.

Data governance

BlueConic offers an end-to-end consent management solution as a standard capability of the platform to enable all BlueConic customers to be GDPR and CCPA compliant. One of the most critical attributes captured in individual-level profiles is consent status with respect to giving explicit permission to use consumers' data for specific marketing purposes, as required by these regulations. Additionally, BlueConic's end-to-end solution also enables individual rights request management. BlueConic captures and processes individual right requests, such as the right to be forgotten, as well as personalize requests for consent to increase consent rate.

In addition to consent management, there are several other ways to manage data quality in the platform using various validations as well as integrations with tools like Acxiom.

Unification and persistence

The platform retains the full detail of data. BlueConic's architecture is built on top of a profile database (Apache Cassandra), which is linearly scalable, and capable of storing billions of key/value pairs and hundreds of terabytes of data. All profiles are updated in real time. BlueConic's profiling mechanism is at the core of all the other features in the platform. It creates profiles for both known and unknown individuals and merges them into a single profile based on unique identifiers.

BlueConic then makes data persistent by composing an actual persistent, person-level profile that is stored in a real time server-side in a NoSQL database with high-volume storage for both historical and in-context data collection. This process represents a departure from typical industry processes of creating a graph of associated, deconstructed events.

Integration and orchestration

The platform also integrates into any system by offering more than 80 out-of-the-box integrations with other solutions from advertising and campaign management, to e-commerce and identity enrichment. Many of these are bi-directional, server-to-server connections. Connections also have standard profile property mapping models that can be configured by the marketers using a web-based UI.

The platform's recommendations engine uses ML to optimize the customer experience based on an individual's attributes and behaviors. It predicts which product or content is most likely to get a response based on an individual's profile attributes. This means when individuals visit the website, BlueConic predicts in real-time what content or product will be the most interesting for that person.

Visualization and measurement

BlueConic's plug and play visualizations allow enterprises to customize their dashboards by selecting from a gallery of pre-built visualizations ranging from segmentation to activation and offering a wide range of metrics including cohort analysis to Net Promoter Score. Dashboards allow enterprises to gain insights at every stage of the customer lifecycle, as well as the ability to identify gaps in experiences and specific causes of issues. Dashboards can also be shared via BlueConic or email.

Background

BlueConic was founded by CEO Bart Heilbron and CTO Martijn van Berkum. Both Heilbron and van Berkum previously founded web content management vendor, GX Software, where Heilbron served as CEO and van Berkum worked as CTO. Both were driven next to form BlueConic by a shared passion to improve online engagement.

Current position

BlueConic continually adds new connections to other technologies and upgrades existing connections for customers. The vendor also offers measurement capabilities, customer journey capabilities, and an end-to-end GDPR compliance solution.

RFPs have doubled year-over-year and BlueConic has seen a +33% increase in enterprise customer wins. Its roadmap as of 3Q19 specifies further development of its AI Workbench, including new enriched AI-based customer scoring. BlueConic is improving visualizations and functionality for enhanced customer journey phasing, as well as enhanced data transformation for better data hygiene.

BlueConic offers software-as-a-service (SaaS) pricing, which is based on the number of profiles retained in the platform on a rolling 12-month basis. Customers choose which pricing tier is best for their organization based on the number of profiles they want to retain in BlueConic. Each tier includes a fixed amount of data storage, data operations, and data traffic. If during the term of the agreement customers need additional units for any of these amounts, they can be upgraded to a higher tier for the remainder of the contract, or they can be added to their subscription.

BlueConic has received a total of \$13.8m in Series A funding to date. Its investors include Sigma Prime Ventures, CommonAngels Ventures, and Angel Investors.

BlueConic is a founding sponsor of the CDP Institute and has received several industry awards. Most recently it was named "Best Customer Data Platform 2019" by the MarTech Breakthrough Awards.

Data sheet

Table 1: Data sheet: BlueConic

Product name	BlueConic	Product classification	Customer data platform
Version number	V.65	Release date	2010
Industries covered	Media/publishing; retail/ecommerce; financial services; and travel/hospitality	Geographies covered	North America, Europe
Relevant company sizes	Mid-market to enterprise	Licensing options	SaaS-based pricing, as well as free trial options
URL	www.blueconic.com	Routes to market	Direct
Company headquarters	Boston, MA	Number of employees	80

Source: Ovum

On the Radar: BlueVenn's Unify and Engage

Ovum view

BlueVenn uniquely combines data cleansing, enhancement, and standardization abilities with in-built automation capabilities for powering cross-channel campaigns. In addition, unified data can be shared with other marketing technology platforms or business intelligence tools.

Key messages

- BlueVenn's differentiator is that, as well as data management, it provides an AI powered, multi-channel campaign management user interface (UI) to centralize the orchestration of a company's online and offline marketing channels. It thus fulfils two requirements in one solution.
- The UI for loading, cleansing and matching data sources lets marketing teams perform complex data management tasks, without having to learn coding or rely on IT or third-party service providers for help.
- BlueVenn blends all customer data (e.g., contact details, transactions, or events/behaviors) from other marketing platforms into a persistent single customer view. The key to this process is its ability to perform data hygiene and enhancements as records are ingested from source systems.
- The company recently introduced multi-touch attribution modeling and a multi-channel preference center.
- Third-party data enhancements fill in gaps to enhance data and identify anonymous users interacting with a brand.
- The BlueVenn Single Customer View and one-click tools ease compliance with existing and future data governance legislation, including the creation of subject access requests and the erasure of data on request.

Why put BlueVenn on your radar?

BlueVenn helps marketing teams to generate more revenue from online and offline campaigns. It offers not only data hygiene and optimization, but multi-channel marketing automation and customer analytics in harmony with existing martech stacks. The company recently introduced attribution modeling, a unique capability amongst CDP vendors. The CDP also offers an intuitive UI, featuring drag and drop analysis, profiling and segmentation tools, as well as more than 150 integrations to commonly used marketing and operational systems.

Highlights

BlueVenn's platform capabilities align with Ovum's recommended CDP proficiencies in the following ways:

Ingestion and identity

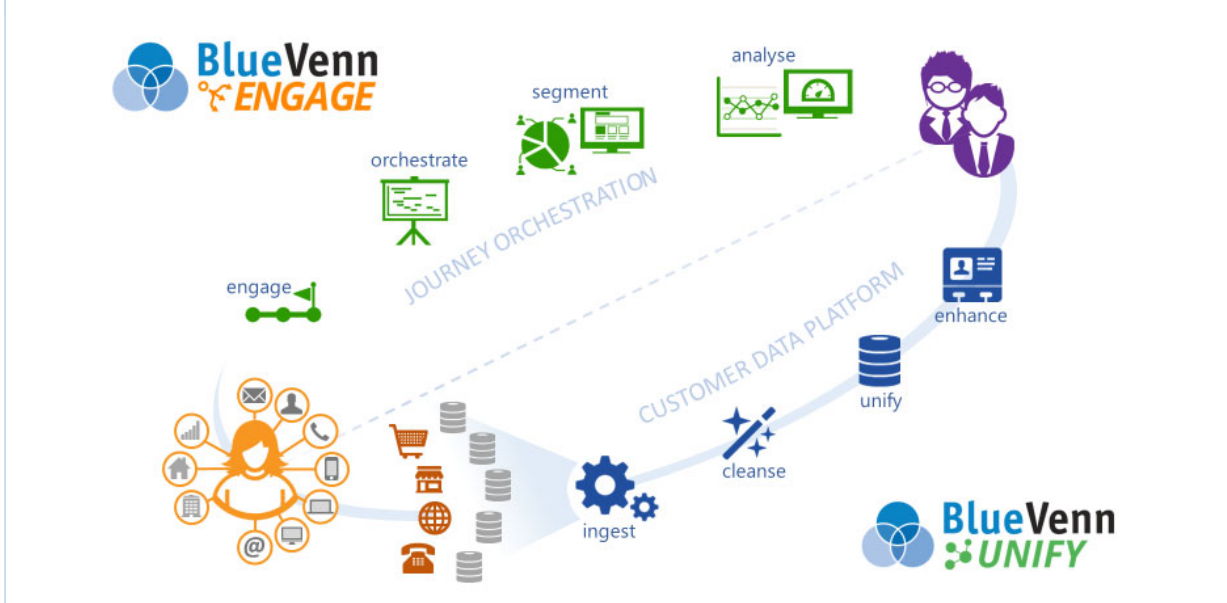
The BlueVenn Unify module blends all customer data into a single view as its connectors, APIs, and data loaders ingest data from all existing systems. The ETL and customizable identity resolution engine handle the matching, merging, and de-duplication of customer records and the ingestion of real-time behavioral insights from different platforms. The BlueVenn Engage module then enables the activation of the data with predictive modeling, AI-powered analytics, and cross-channel campaign management.

Ingestion works like this: whether data is known or anonymous, real-time or batch, BlueVenn Unify's data loaders, connectors and APIs ingest it from an enterprise's sources with velocity and combine it with third-party sources. These include Acxiom, Experian, D&B, List Services, V12, and a European B2C and B2B Universe, compiled from data providers across Europe. The software provides controls for when, how, and what data enters the CDP, and a customizable front end creates ease when

adding new and derived fields. When data requires attention, Unify prompts users with workflow triggers for data transformations before or after every data refresh.

When the data is ingested, BlueVenn conducts an array of data hygiene and matching processes, including cleansing, enhancement, deduping, and identity resolution. Firmographics are also applied to create a unified "Golden Record." BlueVenn Unify centralizes customer preferences and their consent for marketing across email, direct mail, SMS, telephone, and advertising while enabling customers to publish these to their end-customers as a multi-channel preference center, to manage opt-ins and opt-outs all in one place.

Figure 6: BlueVenn Engage and BlueVenn Unify integration



Source: BlueVenn

Analytics & segmentation

BlueVenn's "train-of-thought" data analysis and AI-driven marketing tools offer marketers the ability to quickly and easily analyze and segment millions, or even billions, of customer data points. In this way they gain real-time insights such as, who are the best customers? Who's likely to churn? How and when will each customer buy again? Tools include recency, frequency, and value (RFV) segmentation tools, ML, predictive analytics, and modeling wizards. The system allows users to create unlimited segments and build propensity models. They can also use cluster modeling to predictively group individuals for retention campaigns, loyalty rewards, next best actions, and product promotions.

Data governance

Modern compliance and data privacy tools, designed for changing legislation such as the GDPR or the California Consumer Privacy Act (CCPA), also make specific requirements to fulfill Subject Access Requests (SARs) or fully delete customer data actionable at the click of a button.

Unification and persistence

BlueVenn Unify continuously matches, merges, and enhances data in real time as it enters the platform. Third-party data enhancements fill in the gaps to enrich data and identify anonymous users interacting with a brand (where local data protection legislation allows). The result is a persistent memory of every transaction, click, open, visit, like, and engagement with a brand, tied to a unique

customer record or anonymous user, which can then be activated through personalized campaigns or analytical tools. An audited and time-stamped history of every data change, match, or transformation allows enterprises to monitor data quality and integrity over time. BlueVenn Unify can also scale its database as enterprises add more data, channels, and customers.

Integration and orchestration

BlueVenn Engage module is referred to as "channel agnostic." This means that the system will connect to a customer's choice of email marketing platform, SMS, mobile marketing, or personalization tools. This enables customers to retain elements of their existing technology stack, instead of needing to replace it. BlueVenn's real-time, bi-directional connectors allow users to execute all channels from a BlueVenn-built campaign, and details of the resulting clicks, opens, visits or interactions flow back into BlueVenn to enable ongoing optimization. Some of the notable integrations and connectors include Acoustic (formerly IBM Silverpop), Salesforce Marketing Cloud, Mailchimp, dotdigital, Upland Adestra, Pure360, IMI Mobile, and Twilio.

BlueVenn's personalization module, BlueRelevance, offers multi-variant testing and delivers customized content based on a customer's shopping habits and online and offline behaviors. By installing a one-line script tag on the website, click stream data is collected in real-time for personalization, analysis, next best actions, and AI-powered recommendations.

Visualization and measurement

BlueVenn offers data visualization charts, graphs, venns, and maps that allow marketers to visualize their data and metrics. A "drag and drop" interface helps marketers to build up a contextual understanding of the customer journey and gain deeper insight into customer behaviors and patterns of purchase. It also conveys the ability to drill down into precise audiences, based on demographics, lifestyle, attitudinal characteristics and values, and to immediately use the visualizations in campaigns.

BlueVenn recently introduced multi-touch attribution measurement tools, which enable marketers to configure and report on which channels and campaigns are bringing in revenue. The models go beyond attributing first or last touch to offer seven options for setup and configuration. They also help marketers to assign weightings for measuring ROI.

Background

BlueVenn was originally founded in 1998 as a marketing database and analytics technology vendor known as SmartFocus, until an acquisition in 2011. A management buy-back in 2013, by CEO Steve Klin, CFO Neil Thomas, and chairman Iain Lovatt, was the inception of the newly named BlueVenn. Since its launch, the business has undergone international expansion, with five offices now in three different countries, and in the past 24 months has undertaken two strategic acquisitions.

Current position

BlueVenn is headquartered in Raleigh, NC in the US and Bristol in the UK, with additional offices in the UK and France. It acquired Leap Media Solutions in January 2018, providing a unique Customer Data Platform offering to the media and publishing industry. It has a strong dominance in this market, with clients such as Gannett, Gatehouse Media, The Washington Post, Daily Mail Group, and another 300+ news media and publishing brands. The company's target verticals also include travel & leisure, finance, retail, online gaming, and automotive.

Data sheet

Table 1: Data sheet: BlueVenn

Product name	BlueVenn Marketing Hub (two modules: BlueVenn Unify and BlueVenn Engage)	Product classification	CDP & MCCM (multi-channel campaign management)
Version number	v2019.2	Release date	August 2019
Industries covered	Retail, media & publishing, travel and leisure, finance, automotive, not-for-profit	Geographies covered	Global
Relevant company sizes	SMB and enterprise	Licensing options	SaaS
URL	www.bluevenn.com	Routes to market	Direct and partners
Routes to market	Direct and partners	Number of employees	162

Source: Ovum

On the Radar: Exponea

Ovum view

Exponea has combined CDP and analytics in a single solution. Subsequently, its Exponea Experience Cloud offers users a full suite of personalization and engagement solutions to obtain a single customer view and the ability to send real-time personalized customer interactions across all digital touch points throughout the customer journey, such as email, SMS, website, social, and mobile.

Key messages

- Exponea enables seamless interactions between customer source data and campaign execution capabilities.
- The company's real-time data storage was built from the ground up and combines with best-of-breed data storage technologies.
- Exponea's Omni-Channel Orchestration includes real-time response, campaign execution, and web optimization.
- Exponea offers real-time predictions powered by a live predictive AI model.
- Notable new features released this year include, long-term data storage, rich push notifications, auto evaluation, dashboards for email campaigns, and predictions templates, among others.

Why put Exponea on your radar?

Exponea was built from the ground up (i.e., no acquisitions) which allows for seamless interactions between the vendor's universal source of customer data and the campaign execution capabilities. It has been dedicated to building practical AI applications from its start and is a fully integrated experience cloud, allowing enterprises to leverage the power of deep customer analysis. As a result, Exponea can deliver customer experiences that are not only personalized, but also signal right time, right device.

Exponea removes data silos by providing a real-time unified single customer view of offline and online data (see Figure 7). Its CDP capabilities and the additional built-in execution layers allow for immediate activation of the data to boost customer loyalty and deliver relevant and consistent customer experiences across all online and offline channels.

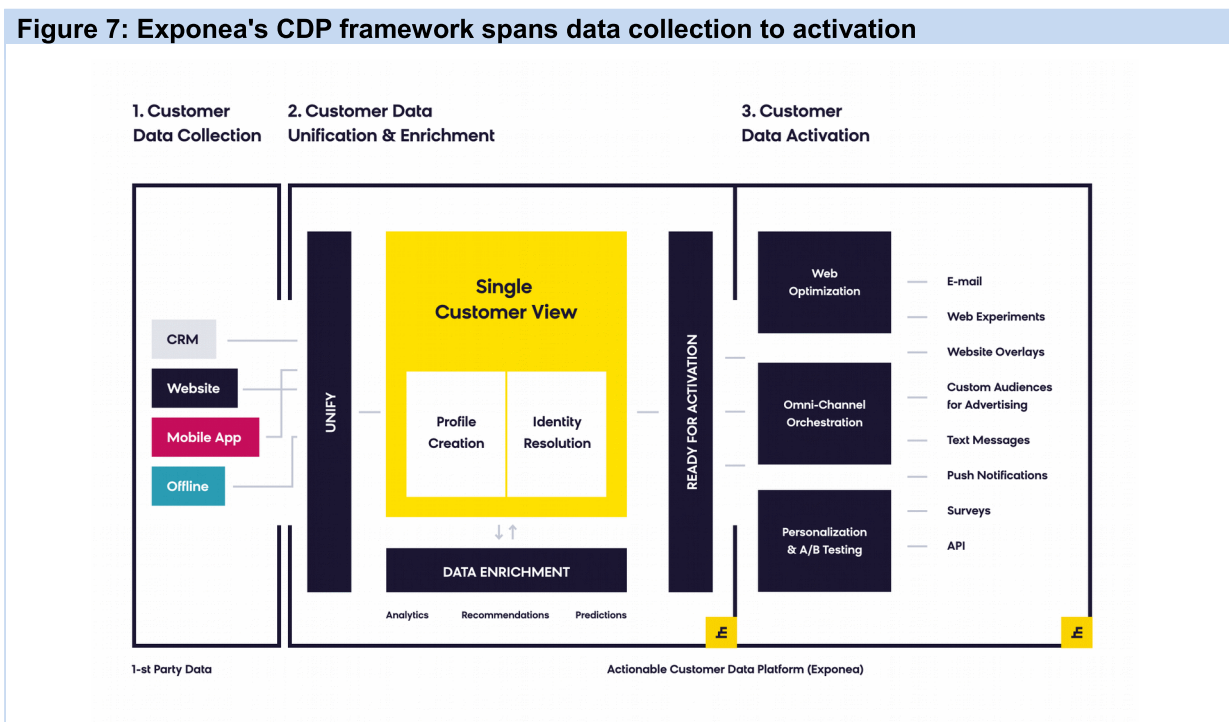
Highlights

Exponea's platform capabilities align with Ovum's recommended CDP criteria in the following ways:

Ingestion and identity

Exponea's CDP offers an integration framework that supports connectors to manage the ETL process by collecting data from all possible sources and building a unified single customer view to understand audiences and uncover hidden patterns in customer behavior, later scaling a single source of customer intelligence across all touchpoints.

Figure 7: Exponea's CDP framework spans data collection to activation



Source: Exponea

Unification and persistence

The company's real-time, long-term data storage is built from the ground up and is a new module. It is combined with technologies, including BlinkBytes real-time data storage, Hadoop permanent storage, CRM with 360° customer behavior history, and a rich API for third-party integrations. A data import wizard allows for intuitive extraction.

Segmentation and analysis

Exponea offers real-time predictions and segmentation powered by a live predictive AI model which ensures that the predictive data (purchase prediction, email open, ideal email time, etc.) contained in the single customer view are always up to date.

Data governance

Exponea has obtained ISO 27017 in Information Security for Cloud Services and ISO 27018 Protection of Personally Identifiable Information in Cloud. The biggest effort was put into getting the Certificate of GDPR Conformity, in compliance with principles of Regulation (EU) No 679/20167 of the European Parliament and of the Council.

Integration and orchestration

Exponea offers native integrations with best-of-breed tools like MySQL, Facebook Ads, and Shopify. In addition to the real-time CDP with predictive capabilities, Exponea offers a campaign execution layer (omni-channel orchestration and web optimization with A/B testing) to enable clients to have full control over their data collection and activation, all within the same interface.

The company also provides real-time tracking of website behavior, data imports via webhooks, and several native integrations (e.g., Shopify, Google Cloud, Mailgun, Google Marketing Platform, and more).

Visualization and measurement

The CDP uncovers insights and conducts data discovery through customer journey mapping and data modeling and displays the real-time insights through Auto Evaluation Dashboards, dashboards for email campaigns, and a web optimization platform enhanced by Website Overlays. To gauge results, Exponea also offers auto evaluation, rich push notifications, and measurement capabilities.

Background

CEO Peter Irikovsky and Jozo Kovac co-founded Exponea in 2015. Kovac had a background in AI, having served as a business analytics consultant at IBM, and CEO and co-founder of AI company 7Segments. Irikovsky had extensive management experience, spending time as CEO at Slevomat and managing partner at LRJ Capital, among others.

Current position

Exponea is a private company headquartered in London with offices on four continents. The company has received a total of \$35m in funding and is considered a late stage venture. The most recent round of funding was a Series C.

The company caters mostly to the retail industry. Notable clients include TopShop, FitFlop, Gant, and Victoria Beckham. Additionally, clients Zoot, Kiwi, and FastCool are considered among the fastest growing companies in Europe.

The company has become the fastest growing company in Europe and the second-fastest in the world, according to SaaS 1000. Part of the growth is due to its in-depth partner network consisting of technology, agency, and marketing consulting partners in the UK, Germany, Nordics, USA, Russia, and Central Europe.

Over the next 12 to 18 months, Exponea will continue to focus on improving the capabilities of its current channels (web, email, push notifications) while also adding new channels (e.g., mobile messaging) to enable clients to be present where their customers are. In addition, the company will continue to invest in enhancing its ML technology (product recommendations and real-time customer predictions) to ensure it delivers relevant communication at every step of the customer journey, at scale.

Data sheet

Table 1: Data sheet: Exponea

Product name	Exponea Core	Product classification	CDP
Version number		Release date	2015
Industries covered	Retail	Geographies covered	EMEA, US
Relevant company sizes	Enterprise	Licensing options	Pricing is based on events
URL	www.exponea.com	Routes to market	
Company headquarters	London	Number of employees	303

Source: Ovum

On the Radar: Manthan

Ovum view

Manthan Customer Marketing Platform helps marketers deliver superior customer engagement and drive higher returns on marketing spend by bringing together a complete and consistent view of the customer.

The underlying CDP creates a unified view of the customer, and AI and advanced analytics enable analysts and marketers to create dynamic segments and predict customer behavior. Omni-channel personalized campaign management allows the orchestration of campaigns at scale, for contextual, consistent, and real-time customer engagement.

The company's products are built for enterprise business users, with a strong focus on business outcomes, and always striving to deliver the best time to value.

Key messages

- Manthan Customer Marketing Platform has an omnichannel CDP at the core, which creates a golden customer record for use by marketers.
- Manthan enhances customer data with external data sets.
- Manthan offers a variety of rules-based and ML-based segmentation strategies to create customer personas and profile customers.
- Its customer analytics solution integrates context with behavioral insights to create ideal responses for every customer interaction.
- Its 12-month road map will include developments around improving marketing optimization and automated insights.

Why put Manthan on your radar?

Manthan is a full-scale CDP. The company's expertise in customer analytics, customer journey orchestration, and marketing measurement makes Manthan a strong CDP contender. Manthan has deep B2C and retail domain expertise which is the reason behind its claim that clients go live in six to

eight weeks, are optimized for AI and analytical workloads, and its CDP will cut effort and time by 70% to 90%.

Highlights

Manthan's platform capabilities align with Ovum's recommended CDP criteria in the following ways:

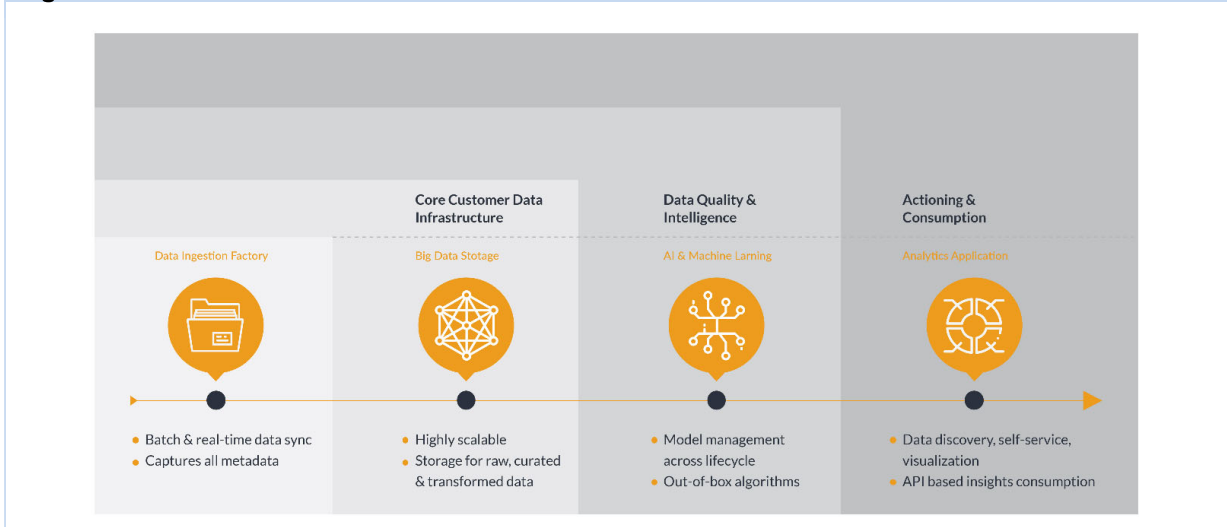
Ingestion and identity

Manthan enables multiple integration solutions to support various business needs. Manthan enables omnichannel ingestion through a framework that supports first- and third-party data management. With a robust identity resolution methodology, the profiles are connected, de-duplicated and merged with identifiers such as phone number, email, loyalty account, etc. The CDP uses deterministic and probabilistic matching to create golden customer records.

Behavioral data like offer redemptions, browsing patterns, campaign response, transactional data like purchases and feedback, aggregator data such as marketplaces, and customer service data is continuously updated in the customer data platform.

Manthan enables its customers to enhance their enterprise data with external data sets such as syndicated sales, mobile behavior, third-party web, location, geo-demographic, and weather data. External data sets will help surface previously unknown opportunities and enhance the quality of insights.

Figure 8: Manthan's core infrastructure meets the needs of various business users



Source: Manthan

Unification and persistence

Manthan claims to produce AI-driven golden customer records through deterministic and probabilistic matching. Then through Manthan TargetOne, a cloud-based SaaS solution that serves as a centralized, integrated personalization platform, Manthan maintains customer profiles across all touch points. The journey builder module provides an easy drag and drop interface to set up cross-channel drip campaigns, that could be based on a trigger, or can be a scheduled campaign.

Segmentation and analytics

Manthan conducts rules-based and ML-based segmentation through pre-built models, enabling predictions and decisions in the form of next-best actions, channel optimization, journey marketing,

and marketing analytics. Additionally, the vendor offers modules covering use cases like customer segmentation as well as predictive models, churn modeling, and has algorithms that calculate upsell and cross-sell opportunity.

Manthan has reimagined customer analytics through prescriptive analytics applications powered by AI. Customer360, its cloud-based customer analytics solution, integrates context with behavioral insights to create ideal responses for every customer interaction. With descriptive, predictive, and prescriptive algorithms, Customer360 equips the marketer to understand customers' preferences and digital behavior.

Data governance

Manthan follows the concept of privacy by design, with prevention as the key tenet, and not remedial. Privacy is the default setting and is embedded into design. End-to-end security provides full data lifecycle protection, visibility and transparency, availability of functionality, with user privacy being paramount. This is established in documentation and through actual audits for GDPR compliance.

Key capabilities related to privacy compliance include:

- Customer Snapshot to centralize all available customer data.
- Right to access to allow access to the snapshot.
- Right to forget to delete and anonymize customers' private details.

Integration and orchestration

Manthan supports marketing and personalization efforts across offline and online channels, including mobile app, website, emails, and SMS. With Manthan's Customer Marketing Platform, enterprises can target customers effectively with relevant and contextual communication across all engagement channels—as planned interactions or in real time, as a response to a customer trigger. The platform offers a recommendation engine for personalized promotions, targeted lists for marketing campaigns, aggregated insights from shopping behavior, campaign responses and social engagement, and triggered campaigns across digital and other channels.

Visualization and measurement

Manthan's marketing platform enables measurement and understanding of interaction context. The Customer360 product is specifically designed to meet the needs of analysts and data scientists who are looking to track business metrics and build complex analytics and visualization.

Customer360 provides the capability to do the following:

- Look up customer data and build custom views without any SQL knowledge.
- Build ML algorithms through a point and click workflow where underlying AI helps ensure model accuracy.
- Use embedded Tableau to develop complex visualization and dashboards.

Marketers can easily track marketing and campaign performance through measures such as incremental revenue, redemption rate, conversion rate, response rates, and ROI. Other visualizations include segment migration trends, churn analysis, and performance funnel. There are simple options to set up test and control, and A/B testing, and then to ascertain the results.

Background

Managing director and CEO Atul Jalan founded the company in 2004.

Current position

Manthan is headquartered in Bangalore, with satellite offices in Santa Clara, Dubai, and Singapore. It employs more than 500 people globally and its key markets include North America, Southeast Asia, the Middle East, and India. The company also has some small clients in Europe.

Manthan is considered a Late Stage Venture Funding Type Series D, and maintains a deep retail domain expertise, with clients in categories including restaurants, supermarkets, fashion, specialty, e-commerce, and loyalty programs. Notable customers include Domino's and Robinsons Malls. However, Manthan is contemplating expanding into adjacent B2C categories like travel, hospitality, and retail banking. It is already in talks with companies in airlines and hospitality.

Manthan partners with leading technology, data, consulting, and system integration businesses to strengthen and extend the capabilities and reach of its solutions. Its 12-month road map includes developments around improving marketing optimization and automated insights to better help marketers to hone their data, reveal opportunities for engagement, and continuously learn and optimize promotions.

In March, Manthan achieved Amazon Web Services (AWS) Digital Customer Experience Competency status. This designation recognizes that Manthan Customer Marketing Platform has demonstrated deep expertise and proven customer success by providing end-to-end solutions for customer marketing.

Data sheet

Table 1: Data sheet: Manthan

Product name	Customer360, part of the Customer Marketing Platform	Product classification	CDP, customer analytics, marketing orchestration
Version number	2019 R1	Release date	2012 with two releases per year. The last release date was May 2019
Industries covered	All retail, restaurants, e-commerce, loyalty programs	Geographies covered	Global
Relevant company sizes	Enterprise	Licensing options	SaaS
URL	www.manthan.com	Routes to market	Direct and systems integrators and VARs in areas with limited sales coverage
Company headquarters	Bangalore	Number of employees	500 +

Source: Ovum

On the Radar: NGDATA

Ovum view

NGDATA's Intelligent Engagement Platform uncovers emerging opportunities in customer data and orchestrates hyper-relevant experiences. NGDATA empowers enterprises seeking greater customer lifetime value to drive continuous, actionable insights to enable sales and increase customer loyalty.

Key messages

- An intuitive UI designed specifically for the marketer allows users to gain access to self-service analytics.
- A process of identity resolution matches and merges profiles from different sources and appends data to ensure it is linked to the right person.
- The platform makes real-time, personalized recommendations, and orchestrates experiences on all possible owned channels.
- Ready-to-use solutions, like ML capabilities, such as audience clustering and lookalike modelling, allow marketers to define their own metrics.

Why put NGDATA on your radar?

NGDATA announced its Intelligent Engagement Platform in June 2019, its fourth generation of this offering. At a high level, it enables marketers to design and deliver data-driven, individualized campaigns in minutes, not weeks.

NGDATA's Intelligent Engagement Platform uncovers emerging opportunities in customer data and orchestrates hyper-relevant experiences. Through an intuitive UI, marketers and business users gain access to internal and external data and an AI-powered suite of capabilities to analyze, predict, and orchestrate dynamic personalized experiences across millions of customers in real time.

Highlights

NGDATA's platform capabilities align with Ovum's criteria in the following ways:

Ingestion and identity

OOTB solutions leverage real-time Customer DNA built on top of first-, second-, and third-party data with predefined metrics that power experiences designed to attract qualified leads and onboard customers with relevant offerings.

NGDATA's integration framework supports the creation of connectors to integrate and expose data through a visual interface. The framework consists of components that manage the ETL process. These components are readily available from a library to connect to different data sources and ingests the data, whether it be in batch or streaming and from different source systems. NGDATA's connectors allow enterprises to connect to all data sources, structured and unstructured, real-time and batch, from their own systems, including ERP, CRM, and mobile channels; integrate online and offline channels; integrate second- and third-party data from partners and DMPs like Salesforce, Adobe, Lotame, Microsoft Dynamics, and Experian; and enrich the data; connect with advertisers to optimize spend; and integrate with connected devices across IoT.

NGDATA relies on identity resolution to match and merge profiles from different sources and appends data to ensure it is linked to the right person. NGDATA provides two ways of matching:

- **Interaction based matching.** As interactions take place where different IDs from data sources co-occur, NGDATA's Intelligent Engagement Platform (IEP) performs real-time interaction-based matching of simple, non-conflict cases. This process can also be conducted in batch. (This is a form of deterministic matching).
- **Entity based matching.** Matching based on input from a third-party matcher on similarity of fields like name, address and email. Here, the IEPs master identification algorithm will verify the confidence value to match different IDs from a single source. NGDATA supports

probabilistic matching done by a third-party and process the input. Concretely, based on a probability input received from a third-party source on how probable two IDs match (if the input passes a specific confidence value), the system merges the two IDs into a master ID. The probability calculation is done outside the system opposed to an identity graph where the merging process is done within the system.

Unification and persistence

The data is deduped and matched in real time to create contextually aware profiles, as well as a single customer view with both historical and current data. NGDATA refers to this as the customer DNA.

Segmentation and analysis

Out-of-the box fractional attribution models help enterprises gain deeper insights. Self-service analytics and ML, including capabilities such as audience clustering and lookalike modeling, help marketers discover, analyze, and predict emerging opportunities from customer data.

Data governance

IEP contains the following capabilities for authorization management, data governance, and privacy and compliance regulation:

- functionality permissions
- access control lists (ACLs)
- user roles, and user groups
- audit logging framework
- logging, monitoring and tracing: a detailed trail of what metrics have been accessed
- purpose logging: deliver insights to the user for which purpose metrics have been used
- data privacy and masking: shield restricted and sensitive data from unauthorized users
- full delete functionality: enables the right to be forgotten for entities (customers)

Integration and orchestration

The platform integrates data into any enterprise system. Through an inbound recommendation engine, it makes recommendations and orchestrates experiences on all possible owned channels. A marketer-oriented UI allows the marketer to set-up campaigns with offers and experiences for audiences, based on channel preference. The solution then listens continuously for changes in usage of products and services to automatically trigger outbound personalized experiences, taking into account response, or non-response to presented experiences when considering and suggesting the next most suitable experience.

Visualization & measurement

Enterprises can define their own metrics using various methods including formula models, neural networks models, and linear models. Data inside IEP can be tracked and analyzed and measured against goals, trends, and benchmarks.

Background

NGDATA was founded in 2012 by Frank Hamerlinck, Jürgen Ingels, Luc Burgelman, and Steven Noels. The company appointed CEO Doug Gross in January 2019. Gross brings more than 30 years' international experience. He was previously executive director of Corporate Banking Solutions at

financial services technology specialists FIS Global. Prior to that, Doug served as CEO of payments technology firm Clear2Pay America, and held senior positions with S1, Unisys, and HSBC.

Current position

NGDATA is headquartered in Gent, Belgium and has offices in the US, Europe, the UK, and the Asia-Pacific. The company sells to a range of industries, with financial services and telecoms representing the largest client sectors at 45% and 20%. Notable customers in these industries include Belfius Bank (BE), a globally recognized tier 1 bank in Asia, and Telenet (Liberty Global). Other sectors include energy and utilities, retail and wholesale, and hospitality. The company offers ready-to-use solutions for these other sectors through solution partners.

The company maintains a robust technology partner ecosystem with notable partners, including, Google Cloud, AWS, Cloudera and Hortonworks. The company has received a total of \$48m in funding with the last type being a Series C.

NGDATA also offers a value-based pricing structure. Licensing of the product is based on three components: a platform fee based on the number of profiles, recommendations (and their feedback), and service and support, which is based on specific business hours.

NGDATA's roadmap features further development of AI and ML capabilities, as well as cloud-based services – all in line with the company's vision to drive real-time, personalized recommendations and empower the marketer. In ensuring future product roadmaps are aligned with that vision, a process has been put in place to channel feature requests from both internal teams and clients to populate and prioritize further product enhancements. Based on the recurrent prioritization exercise, the features for the upcoming releases are discussed internally and selected. In the upcoming releases for 3Q19 NGDATA will focus on these main features:

- Further enhancements to the integration framework to allow for more easily building connections.
- UI and configuration management improvements.
- Integration of new out-of-the-box use case packages.
- Enrichment of the composite measure capabilities.

NGDATA was recently named one of Bank Systems and Technology Magazine's "Top 7 Big Data Players to Watch."

Data sheet

Table 1: Data sheet: NGDATA

Product name	The Intelligent Engagement Platform	Product classification	Customer data platform
Version number	V4.0 released on 18 June 2019	Release date	January, 2012
Industries covered	Financial services, hospitality, retail, media and telecom, and utilities	Geographies covered	Global
Relevant company sizes	Enterprise	Licensing options	Based on three components (see above)
URL	www.NGDATA.com	Routes to market	Direct, partnerships
Company headquarters	Gent, Belgium	Number of employees	110 and hiring

Source: Ovum

On the Radar: Optimove

Ovum view

Optimove offers a Relationship Marketing Hub, a technology suite with an actionable Customer Data Platform at its core, that enables the orchestration, measurement, and optimization of personalized multi-channel campaigns, at scale. The CDP mines all available data to gain insights on present behaviors and needs, as well as predict future behaviors. Optimove is used by hundreds of leading brands of all sizes.

Key messages

- The CDP offers more than 80 out-of-the-box connectors for data ingestion. Optimove also offers more than 100 connectors to execution channels.
- Unified profiles are continuously maintained as 360-degree customer views.
- A predictive marketing engine predicts current and future customer behaviors.
- Optimove automates and optimizes cross-channel campaigns.
- BI Studio is embedded in the CDP to enable rich visualizations of the reports.
- Optibot identifies opportunities in the data and presents them as one-click actionable insights.

Why put Optimove on your radar?

Optimove offers bespoke services including Customer Success Management, predictive modeling, and a variety of consulting services. Optimove's native integrations allow enterprises to seamlessly orchestrate large-scale, customer communications across all available channels. Additionally, the Optimove marketing hub manages hundreds of granular segments. Finally, the company's strategic services team works closely with clients prior to deploying its Relationship Marketing Hub to determine their individual goals and desired metrics.

Highlights

According to Rony Vexelman, director of product marketing, Optimove's CDP focuses on three main areas:

- It provides marketers easy access to the data.
- It orchestrates across online and offline marketing channels.
- It measures the business impact beyond the transaction in terms of any custom business KPI.

Optimove's platform capabilities align with Ovum's criteria in the following ways:

Ingestion and identity

The CDP ingests data through 80 out-of-the-box connectors from four main sources: first-party raw data, on-site/in-app user activity, campaign response history, and third-party data from a range of technology companies like MailChimp, Marketo, Oracle, Emarsys, and SmartFocus.

While Optimove's identity resolution process is proprietary, its data science team works to identify, cleanse, and unify all customer records from the different data sources during the customer model creation process. At the culmination of the setup process, in terms of identity resolution, a unique persistent ID is given to each customer, facilitating cross-device and cross-touch tracking.

Unification and persistence

The consolidated dataset after the data is ingested and turned into a profile is continuously maintained as a 360-degree Single Customer View permanently. Optimove saves historical snapshots of each customer which are readily accessible to the marketer from the Single Customer View. Furthermore, Optimove does not delete any customer record unless required by the marketer or end-customer (according to GDPR compliance).

Segmentation and analysis

Optimove's predictive micro-segmentation technology powers the delivery of tailored messages, offers, and promotions to individual customer personas. A predictive marketing engine applies mathematical and statistical models to transactional, behavioral, and demographic data. Predictions also include future customer behavior and value, as well as conversion and churn probabilities.

Optimove's data science team builds a bespoke customer model which groups customers into dynamic micro-segments which in turn enable a predictive marketing engine. Customers with similar expressed or implied characteristics and preferences are grouped into dynamic micro-segments, which become the building blocks of personalized campaigns and interactions.

Customer data, prior campaign responses, and predictive behavior modeling, including a range of models from cohort analysis to lifecycle stages, are used to identify the most important intervention points – and the most appropriate responses and activities for each – that brands can leverage to maximize customer engagement and loyalty.

Data governance

Optimove products meet the privacy-by-default requirement of GDPR, namely that technical and organizational measures are in place to ensure that, by default, only personal data necessary for a specific purpose is processed. Customer consent for data capture and usage is recorded at the user level and can be easily viewed by the marketer. All customer personal data is available for reporting, export/download and access using Optimove's Customer Explorer and Customer360 interactive

reports, as well as various functions of the Optimove API. Customer data can be rectified either via the ETL process or in real time through API calls. Optimove facilitates the execution of the right for erasure by both Optimove's web interface and the Optimove API.

Integration and orchestration

Optimove offers native integrations to orchestrate large-scale communications across SMS, mobile, email, web push, and web advertising, as well as others. The vendor also offers a content management system with a journey builder to help orchestrate campaigns and interactions. A UI offers a drop-down menu that calls up customer history.

The platform supports email, SMS, mobile push messaging, Facebook Custom Audience, Google Display Network, Twitter Tailored Audience, website banner ads, call center, automated calling, and others. Enterprise clients can use native Optimove channels, their own in-house tools, or they can integrate with third-party systems through Optimove's API.

Optimove also offers a framework for marketers to define priorities, exclusion rules, and recurrence patterns to maximize coverage, avoid campaign crossfire and prevent over- and under-exposure across devices and touchpoints. Additionally, its "Optibot," a built-in marketing optimization bot, optimizes performance by identifying opportunities and provides one-click recommendations, such as dropping under-performing actions and switching regular campaigns into self-optimizing campaigns, that automatically determine the ideal message or offer for each customer. Optimove automates scheduled cross-channel campaigns, via predefined single or multiple channels.

Visualization and metrics

Optimove's algorithm tracks how competing actions perform for each micro-segment within the campaign's target group and uses this data to gradually adjust the cluster-action mix for maximum uplift.

Enterprises can also create multi-variable testing for test and control to decide, for example, if a specific segment should receive treatment A or B and offers the creation of micro-segments to test which segments are more likely to react to various messaging. An SDK for websites and apps enables enterprises to receive real-time reporting and trigger cross-channel campaigns based on customer behavior.

Optimove also provides a customizable dashboard and BI Studio to monitor the KPIs deemed most important to any business. Through BI Studio, an add-on business intelligence reporting system embedded within Optimove, the CDP generates reports based on any facet of a company's business data. BI Studio also offers data visualization capabilities to transform massive amounts of data into visuals for interactive data exploration.

Prior to launching BI Studio, Optimove's Strategic Services Team works closely with clients to understand their specific needs and aligns marketing efforts with KPIs via personalized BI reports delivering information such as datasets, KPIs, and visualizations, using Microsoft Power BI Embedded technology.

Background

Optimove was founded in 2009 by CEO Pini Yakuel.

Current position

The company employs 260 people in New York, London, Singapore and Tel Aviv. Optimove has more than 500 clients in retail, gaming, travel, financial service, entertainment and media, and mobile apps. in EMEA, North America, and APAC. Notable customers include Chubb, Sweaty Beatty, Staples and Sephora.

Optimove is considered an early stage venture, with the last round of funding being a growth funding round totaling \$20m. Last year, Optimove acquired DynamicMail, a provider of real-time personalized emails to complement its email products and features. It maintains partnerships across martech, technology vendors, and agencies, including Facebook, Salesforce, ExactTarget, IBM Watson, and Oracle.

In 4Q19 the company plans to release Optidata, which will accelerate customer profile processing by 10 times, especially for large data sets, grant client analysts direct SQL access to all their customer data for downstream analysis and complex modeling, as well as provide marketers with the ability to create any custom customer attribute they desire without Optimove support. Further out, in 4Q20, Optimove plans to launch self-optimizing customer journeys that will enable customers to build their own pathways across an enterprise.

The company also plans to release updated UI dashboards and reports. Finally, the company plans to include a preference management center at the CDP level to manage device and channel preferences at every stage of the customer journey. Today Optimove offers preference management at the channel level to allow marketers to select emails, etc., but it prohibits cross-channel preference management.

Data sheet

Table 1: Data sheet: Optimove

Product name	Optimove	Product classification	Actionable CDP
Version number	7.1	Release date	2019
Industries covered	Financial services, gaming, retail, travel and hospitality, mobile applications	Geographies covered	Global
Relevant company sizes	Enterprise	Licensing options	SaaS
URL	www.optimove.com	Routes to market	Direct and partnerships
Company headquarters	New York	Number of employees	250+

Source: Ovum

On the Radar: RedPoint Global

Ovum view

RedPoint Global's CDP was built as part of an ecosystem around its Customer Engagement Hub that encompasses a range of technology, marketing-services, data-aggregation, and implementation-service partners. RedPoint Global's solutions provide a single point of control to connect all customer

data, determine next best actions in real time, and orchestrate interactions across all enterprise touchpoints.

Key messages

- RedPoint's solution offers hundreds of out-of-the-box APIs and connectors.
- Probabilistic and deterministic matching is used to identify, match, link, de-duplicate files, and standardize and correct data.
- Identity graphs capture and make persistent unified customer profiles.
- The company's open garden approach enables enterprises to leverage an enterprise's existing technology investments.
- Enterprises can measure the impact of their ad impressions and link them back to anonymous profiles using partner LiveRamp's IdentityLink technology.

Why put Redpoint Global on your radar?

RedPoint Global's core differentiation for its CDP is that its native connectors and open garden approach enable it to integrate to any existing engagement system, as well as all data sources, types, and formats. RedPoint also provides real-time customer profile updates, decisioning, and orchestration to match customer cadence in digital channels.

Highlights

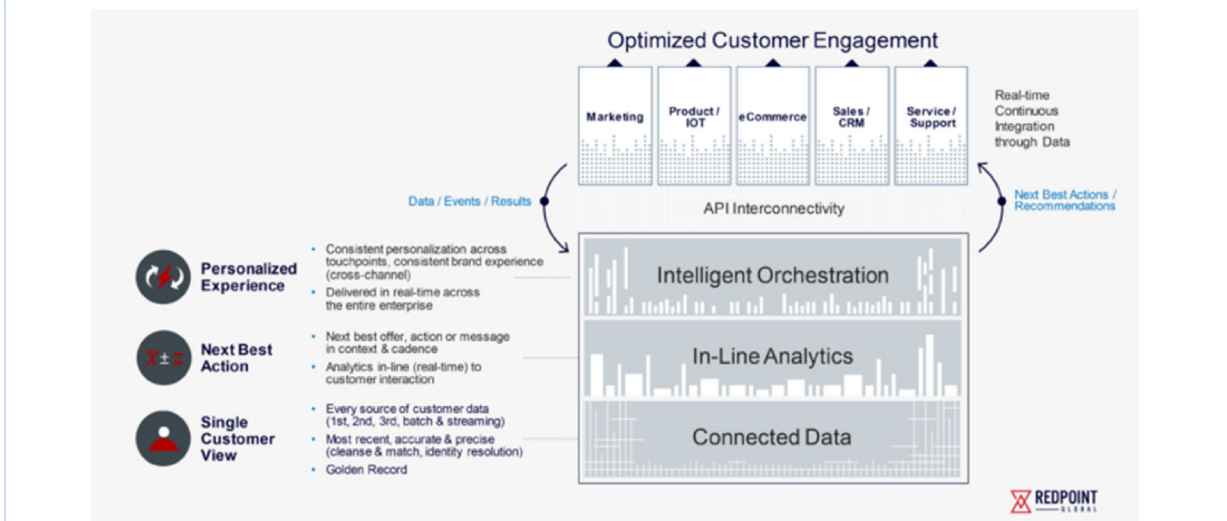
RedPoint Global's platform capabilities align with Ovum's criteria in the following ways:

Ingestion and identity

RedPoint's solution offers hundreds of out-of-the-box APIs and connectors, allowing enterprises to ingest and integrate all types and sources of data including first-, second-, and third-party data; batch and streaming data; and unstructured, semi-structured, and structured data.

RedPoint Global's Data Management and Quality solution standardizes the data and uses probabilistic and deterministic matching (with more than 375 built-in functions) to identify, match, link, and de-duplicate files, and standardize and correct data for more than 200 countries to decipher the individuals, households, cookies, IP addresses, as well as IoT smart devices. It unifies all sources and types of consumer data to bridge data silos by linking the disparate data to create an identity graph, or a map of the demographic, behavioral, transactional, social, and relational facets of a customer's interactions with a brand. The identity graph is presented to users through a single customer view, or Golden Record, for every customer.

Figure 9: RedPoint's CDP serves as a single point of control over data, decisions, and interactions



Source: RedPoint Global

Unification and persistence

The identity graph captures all the detail to create a customer golden record, updates it over time with new customer data or how the relationship with the customer changes over time, stores it permanently and makes it available throughout an enterprise's martech stack. Its Data Management and Quality solution integrates data with persistent keys that create and continuously update a golden record for each customer. RedPoint functions operate across traditional databases, Hadoop, and other NoSQL databases, streaming sources and message queues, as well as third-party data providers to process data in a drag-and-drop interface with no coding.

Segmentation and analysis

RedPoint enables marketers and data scientists to analyze and activate the data aggregated in each Golden Record, determining next-best actions at speed and delivering those actionable insights to business teams. Through its Redpoint AI Studio, marketers can create and deploy models to analyze a customer's behaviors, preferences, and intent to determine contextually relevant next-best actions. The optimization capability provides a modeling environment with efficient search, evaluation functions, and variation capabilities to alter model type and parameters, and fitness functions to assess and select the best model type. They can also select audience segments and automatically push them through LiveRamp for subsequent targeting and activation in downstream ad destinations.

Data governance

The RedPoint Customer Data Platform provides an optional master data management (MDM) component that processes all salient privacy data points and corrections, such as source, date, and the type of opt-in or opt-out (single, double, etc.), field-level changes, and requests for erasure or anonymization. With an MDM solution tracking changes to selections over time the RedPoint CDP becomes a GDPR-compliance vault for the data processor role.

Using this MDM engine, RedPoint Global and PossibleNOW have built a strategic product offering to meet privacy compliance needs, combining PossibleNow's enterprise consent and preference management platform, MyPreferences, with RedPoint's Customer Data Platform and MDM. This

combination provides the ability to connect, control, and update customer profile data from disparate systems and data stores across the enterprise for compliance and governance.

Data subjects can perform the following actions, which in turn updates relevant corporate databases within the enterprise and provides them a confirmation of all completed actions:

- Access their stored data
- Update or correct erroneous data
- Request to delete data
- Revoke consent or anonymize their data
- Request a copy of their data

Integration and orchestration

Enterprises can engage with customers in any interaction touchpoint, leveraging RedPoint's hundreds of connectors. The company's open garden approach enables enterprises to leverage an enterprise's existing technology investments and can scale to support new engagement technologies as they emerge.

Marketers can select from a list of nearly 500 destination partners from DSPs to social networks and interactive TV. The destination channels are available in a picklist in the RedPoint customer journey workflow. Marketers can also create omnichannel campaigns by incorporating targeted ads into an omnichannel campaign alongside email, direct mail, social, and other direct channels to enrich the customer journey.

Visualization and measurement

Customer interaction history is tracked and is auditable at a granular level for every campaign execution, message delivery, and customer response. Historical data includes campaign information, channel information, and individual recipient information. Multiple communications or responses within the same campaign will be tracked independently, with shared campaign IDs for linking.

Campaign data along with interactions is rolled up into charts, graphs, and reports by campaign, channel, time period, or another marketer-defined metric. These reports can be integrated as widgets in a marketing dashboard and shared across teams via Pulse for review and action.

Interaction data is also automatically aggregated into the customer record for viewing inside the single customer view and routed back to AI Studio for reporting, optimization, and retraining of ML models.

Enterprises can also measure the impact of ad impressions and link them back to anonymous profiles using IdentityLink from LiveRamp. They can manage and view the data in an anonymous environment, which can hash and store first-, second-, and third-party data. Insights can also be leveraged for intelligently retargeted ads and direct campaigns for customers with similar preferences and profiles. Enterprises can test, tune, and optimize ad spend in a closed-loop process.

Background

Redpoint Global was founded in 2006 by CEO Dale Renner, CTO George Corugedo, and chief architect Lewis Clemmens. Their collective goal was to solve the connectivity issue between siloed enterprise data and provide the ability to orchestrate at customer cadence across the marketing space. At first, the company started out building individual CDPs for each customer. The extensive development time involved in that process led to the acquisition in 2009 of DataLever, which provided technologies that extract, transform and load (ETL) data, allowing for customization and automation of

traditional ETL functions, as well as processes for data integration and data quality. This technology allows users to select components from a palette of applications to create a custom data processing engine which today serves as the foundation for RedPoint Global's CDP. In 2013, RedPoint Global started using the term "CDP" to describe its platform's classification.

Current position

RedPoint Global is headquartered in Wellesley Hills, MA, with additional offices in the Philippines, London, and Broomfield, CO. The company received Series C funding in 2016 for \$12m. It was led by Grotech Ventures of Vienna, VA, and WP Global Partners LLC of New York, NY. The \$12m in Series C funding enabled RedPoint Global to expand operations to meet increasing demand in international markets, cultivate a growing partner ecosystem, and accelerate development of new product offerings. In September, the company also announced an equity raise of \$13.5m to fuel continued geographic expansion and deepen strategic partnerships. Led by Camden Partners, the round also includes participation of existing and new investors.

The company sells to enterprises in a wide range of industries, including consumer goods, consumer services, education, energy/utilities, financial services, healthcare, precision agriculture, pharmaceuticals, and retail. Notable customers include Keurig Dr. Pepper, GoDaddy, Xanterra, and Travel Collection. It sells both directly and through partners and the software can be delivered on-premise, in the cloud or in a hybrid of the two. RedPoint licenses based on customer and prospect records and data volume and basic support is included in license fees.

RedPoint Global manages a robust partner network of data technology partners, with notables, including Amazon Redshift and Apache Cassandra; ad-tech partners, including ExactTarget and LiveRamp; cloud architecture, including Microsoft Azure and Amazon Web Services; and service provider and agencies, including Axiom and Bridgetree.

Over the next 12 to 18 months, RedPoint Global plans to continue to expand the number and types of connectors it offers. The company recently added support for 30 different data sources and built single sign-on and improved security capabilities and privacy requirements to better protect against phishing and fraud.

In November, RedPoint plans to automate the process of data cleansing, and in early 2020, the company will continue to add deeper performance and management features into its core databases. By mid-2020, the company plans to incorporate AI capabilities that will enable automated management of the system to trigger notifications for system updates or repairs.

Data sheet

Table 1: Data sheet: Redpoint Global

Product name	Customer Engagement Hub	Product classification	CDP
Version number		Release date	October 2017
Industries covered	Retail, consumer goods, consumer services, education, energy/utilities, financial services, healthcare, and pharmaceuticals	Geographies covered	Global
Relevant company sizes	Mid-size and enterprise	Licensing options	Licenses based on customer/prospect records and data volume
URL	www.redpointglobal.com	Routes to market	Direct, partnerships, and hybrid
Company headquarters	Wellesley Hills, MA	Number of employees	170

Source: Ovum

Enterprise software vendors launch CDPs

Adobe's Real-Time CDP

Ovum view

Built on Adobe Experience Platform as an application service, Adobe's Real-Time CDP, in conjunction with the breadth of Adobe Experience Platform's capabilities, helps enterprises stitch together known and unknown data to activate customer profiles with intelligent decisioning throughout the customer journey. This allows them to unify data from across the enterprise – from CRM and loyalty systems to web analytics and media performance – to build rich profiles and targeted audiences.

Key messages

- Adobe Real-Time CDP is purpose-built for marketers – it includes workflows, productized integrations, and democratized AI and ML tools to power marketer use cases.
- Streaming data ingestion through integration with Adobe Experience Platform, ingests data from all systems including CRM, online analytics, and offline systems to bring together customer data in one place.
- Trusted profile management provides marketers the controls and tools needed for consolidated governance across data types.
- Real-time activation offers, pre-built and productized integrations built for marketers to personalize in any channels. Integrations include paid media (social) and owned channels (email, on-site, in-app).

Why put Adobe's Real-Time CDP on your radar?

Adobe Real-Time CDP is purpose built for marketers and offers native integrations with Adobe Experience Cloud and leverages the power of Adobe Experience Platform, so the process of activating audiences across all channels becomes seamless. Its marketer-focused workflow and tight integration with Experience Platform's Experience Data Model (XDM) provides a powerful schema. Data structured with XDM will work natively across Adobe Experience Cloud products to enable analysis, ML, and customer activation. Data is mapped to the XDM in real time and stitched across sources so it can easily bridge the gap between CMO and CIO teams. This helps to support use cases that extend beyond marketing and into customer service.

Additionally, Adobe Real-Time CDP offers productized integrations with various destinations to customer systems, enabling self-service activation for marketers, which positions Adobe's Real-Time CDP as the prevailing platform for marketing engagement that can easily bridge to other lines of business and support multiple use cases.

Tools for data governance, identity management, advanced segmentation, and data science via Adobe Experience Platform are built in so customers can transform their raw data assets into valuable profiles and audiences. These integration features also eliminate the need for separate point solutions that can add complexity to an existing technology stack.

Finally, Adobe's connectivity to a robust ecosystem of partners and its extensive data governance and export controls, serves as another area of differentiation in the CDP category.

Highlights

Adobe announced early previews of its real-time CDP at its Adobe Summit in March and is expected to make it generally available in November. Adobe's platform capabilities align with Ovum's criteria in the following ways:

Ingestion and Identity

Adobe Experience Platform Data Ingestion and Identity Service ingests a variety of data sources, including behavioral, transactional, financial, operational, and third-party data sources – both known and unknown – and makes this available to Adobe's CDP in real time. This ability to ingest from a wide swath of sources removes friction later when activating audiences and delivering customer experiences across all channels, from on-site or in-app personalization to email, paid media, contact centers, and connected devices. Additionally, as part of Adobe Experience Platform, Adobe's alliance with SAP and Microsoft in forming the Open Data Initiative also allows customers to weave together data from any channel or device using a single data model to create a real-time customer profile. The Open Data Initiative makes data accessible across organizations and feeds the real-time customer profiles.

Adobe Experience Platform then transforms raw data into structured information by leveraging Adobe Sensei, Adobe's AI and ML. The platform organizes the data collected from multiple sources into XDMs. These XDMs activate based on customer profiles to deliver personalized experiences in real time.

Users can also benefit from Adobe's Real-Time Customer Profile and the analytical capabilities of Data Science Workspace and Query Service. Adobe Experience Platform Identity Service includes co-op graph, which allows marketers to identify consumers regardless of the devices they use. Using co-op graph with Experience Cloud solutions such as Adobe Audience Manager, Adobe's data

management platform, enterprises can extend their reach to all known devices in a given segment and apply attribution models on a complete customer journey instead of to siloed experiences.

Unification and persistence

XDM as a common semantic data model standardizes and then organizes all data pulled from multiple sources of data. This enriches the customer profiles and activates insights across all Adobe Experience Cloud solutions and application services.

Through Adobe's Real-time Customer Profile feature, enterprises can tie all customers' behavioral, transactional, financial, and operational data together into complete profiles. The stitching happens through a cloud ID activated at the cookie level. This enables enterprises to tie customers' log-in ID to the preferred browser and unify the identity service.

Enterprises can then access the profiles from Adobe Experience Platform in Adobe Real-Time CDP and use them to deliver the right experiences to the right people at the right moment, regardless of when the system stored the data. Pre-built and productized integrations within Adobe Real-Time CDP are built to make it easy for marketers to personalize and activate in any channels.

Segmentation and analytics

AI and ML powered by Adobe Sensei generate actionable insights and scale audiences. Enterprises can attribute the data on a granular level to unlimited first- and third-party data sources and syndicate out segments to marketing activation destinations. Enterprises can also leverage predefined, data-driven best practices and business intelligence to enable real-time decisions.

Real-Time CDP offers data science tools natively in the application service that are intuitive and easy to use for marketers. These tools leverage Adobe Sensei and are designed for practitioners to scale segment and build for successful campaigns.

Data governance

Adobe offers a full suite of capabilities for data classification and policy management to govern profile data usage for various marketing purposes. Enterprises can make use of the data governance framework and easily extend it to fit their data usage policies. Trusted profile governance for known and unknown identifiers, as well as privacy controls to manage data at the individual level helps organizations comply with regulations such as GDPR and CCPA. Real-Time CDP offers out-of-the-box governance enforcement so that marketers can easily and safely apply controls on top of their data as is required for internal policies and external regulation.

Integration and orchestration

The Real-Time CDP natively integrates with Experience Cloud solutions, as well as custom applications, and third-party tooling, including advertising, CRM, contact center, and email. This breadth in channel integration as well as the ability to send in-app notifications and emails in real time through Adobe Campaign integration enables immediate activation. These real-time engagements can also be personalized based on cookie, device-based, people-based environments.

Another application service built on top of Adobe Experience Platform is Journeys, which allows marketers to deliver real-time personalization by giving them the ability to set up messaging initiated by customer actions and tailored to past behaviors and transactions.

Visualization and measurement

Cross-Device Analytics is a capability that enables a brand to deterministically connect behavioral data across different devices that was performed by the same person into a single journey stream. Utilizing the combined power of Adobe Experience Platform Identity Services and Adobe Analytics, brands can understand how people move from touchpoint to touchpoint across devices – turning visitors into people and visits into experiences.

Customer Journey Analytics brings the interactive, self-serve experience of Analysis Workspace to omnichannel data analysis. Utilizing Adobe Experience Platform, which powers Real-Time CDP, organizations can empower anyone to visualize the customer journey in full context across a variety of channels and discover collections of insights in real-time.

Finally, Adobe Experience Platform Query Service establishes a standard approach to querying the datasets with SQL within Experience Platform and turning them into curated data sets.

Current position

Adobe is currently in beta with customers and will officially launch Real-Time CDP later in November. Post official launch, Adobe's Real-Time CDP will regularly add support for additional pre-built connectors for ingestion and activation as well as marketer-focused data science tools. Roadmap items include additional data (connectors) coming into RT-CDP, additional pre-built destinations (e.g., email service providers), and data science tools built for marketers.

Oracle's CX Unity

Ovum view

CX Unity is an enterprise-grade customer intelligence platform embedded within Oracle Customer Experience platform. It aims to bridge enterprise data silos and solves engagement challenges by connecting data, intelligence, and outcomes across the entire customer experience. In doing so, it enables contextually rich and individualized interactions along the paths that customers follow to interact with brands.

Oracle said the platform achieves three things: enables connected customer profiles by integrating profile, transactional, and behavioral data from online, offline, and third-party data sources; conducts customer intelligence by applying ML for modeling, predicting, and prescribing optimal audiences; and activates real-time CX engagement by connecting the service, sales, and marketing functions across enterprises.

Why put CX Unity on your radar?

CDPs have done a reasonable job of aggregating their customer data, but many still lack the ability to activate the data or apply intelligence to be predictive. Furthermore, many CDPs remain narrowly focused on marketing use cases to solve discreet issues rather than the enterprise customer experience.

Oracle's CX Unity solves both these challenges by bringing meaning to the data through its intelligence layer to offer granular personalization. Also, its ability to unify the end-to-end customer experience across marketing, sales, and service takes the focus of its CDP out of the narrow realm of marketing. Finally, its individualized outcomes-focused approach, its global computing power, and upfront strategic consulting amplifies the platform in the CDP category.

Highlights

Today, delivering proactive, personalized customer content and offers requires building a consolidated and accessible customer data foundation across business units with next-best action logic. CX Unity, which was announced at Oracle's OpenWorld 2018, with further enhancements announced at this year's OpenWorld, seeks to help customers better understand their behaviors and needs, and proactively respond at key moments in their journeys. CX Unity's capabilities align with Ovum's criteria in the following ways:

Ingestion and identity

For CDPs to succeed, they must bring together data from disparate sources and then match the objects to the data store. Where existing solutions fall short is ingesting data in real time. CX Unity, however, ingests massive volumes of digital behavioral data from Oracle Infinity, and offers integration to third-party data sources like Oracle Data Cloud (B2C) and Oracle DataFox (B2B). Its open API extensibility supports third party data sources and ISVs, which forges a system that can ingest, score, and activate data in real time.

CX Unity applies identity resolution by conducting probabilistic and deterministic matching to understand known and anonymous customers across their various devices. It also offers pre-built enrichment (zip code) and automated enrichments (LTV, engagement, RFM).

Unification and persistence

Oracle's long history of managing data positions the company as a leader in data unification and persistence because of its extensive integration into its ecosystem of applications and partners. Its ability to ingest from its numerous data sources, including Oracle DMP, Oracle Data Cloud, Oracle DataFox, CX, and back-office cloud applications, will readily solve the challenge of unifying customer data across known anonymous sources and storing it until needed.

The process for unification involves conducting algorithmic fuzzy matches to bring the records together. The profile is then enriched with customer computations, purchase patterns, IOT telemetry, service patterns, and more in real-time to create a unified customer profile for customer engagement.

Segmentation and analytics

CX Unity conducts segmentation that includes behavioral scores (engagement, product interest), out-of-the-box behavior segments (window shopper, bargain hunter), and real-time personalization. It also conducts analytics in the form of performance reports (campaign and audience engagement) and forensics (why did it happen).

Oracle also offers out-of-the-box data models like email, birth year, gender, age etc., as well as a set of configurable out-of-the-box personas like bargain hunters and premium shoppers as a starting point for customers.

Additionally, Oracle features "what you see is what you get" attribution modeling. Then, through deep connections to the back-office, enterprises can easily tie profitability to customer profiles. Having such a holistic view of which channels drive certain actions or behaviors, helps enterprises validate investments and better understand profitability and the essential elements to drive future purchases.

Data governance

Since customer data is often stored in different formats within multiple systems as part of a technology stack, it becomes really challenging to reconcile the data and ensure consistency. CX Unity provides a

robust and powerful data governance framework that helps customers manage compliance with regulations like GDPR and CCPA. With built-in data governance and identity management, CX Unity does quality control for enterprises' customer data and enables them to rationalize their raw data assets and transform them into unified customer profiles and audiences to deliver personalized experiences.

Integration and orchestration

CX Unity is open and extensible to integrate intelligence into partner and ecosystem applications. The platform also enables personalized experiences created from out-of-the-box integrations with Oracle CX Engagement apps, real-time customer-360 context, and a real-time API for non-Oracle applications. Additionally, because CX Unity can be customized per industry, it conducts real-time personalization across acquisition, nurturing, and conversion.

Visibility and measurement

CX Unity dashboards offer intuitive data visualizations that can be customized based upon the business need. They are easy to use, yet powerful enough to perform advanced calculations. The user has a wide choice of options for visualizing the data, from common charts such as line graphs and bar charts to timelines, maps, plots, histograms, and custom designs. Marketers can automatically visualize data as they drag and drop attributes, chart, and graphs and change layouts to present new insights. They can answer questions quickly with the ability to drill into the data to gain deeper understanding.

Current position

Oracle launched an initial release of CX Unity in September 2019. Early adopter customers using CX Unity today include AT&T Business, Toyota of India, and Shopback. CX Unity will go GA in 1Q20 with version 1.0, featuring more capabilities and integrations across Oracle CX platform.

Oracle said many customers are viewing their CDP deployments as catalysts for digital transformation, so the company has partnered with Deloitte, Cap Gemini, and Accenture to help develop collaborative data strategies prior to technology implementation. They will work with early adopter customers to help them establish business strategy, map out customer journeys, and determine desired outcomes. Deloitte, for example, touts an embodiment of CDP best practices which it has embedded into CX Unity as a strategic blueprint.

Oracle will offer pricing models based on value creation and usage. For example, pricing will be based on the number of customer profiles created and used and a second-tier pricing model will activate when enterprises begin to realize value from the technology.

In October, Oracle announced it signed an agreement to acquire CrowdTwist, a cloud-native customer loyalty solution that offers more than 100 out-of-the-box engagement paths. The platform will join the Customer Experience Cloud organization and will help marketers to develop a complete view of the customer by further enabling customer intelligence across customer loyalty touchpoints.

On the Radar: Salesforce Customer 360

Ovum view

Despite having called Customer Data Platforms "a passing fad" in 2018, Salesforce is now building what it refers to as "an enterprise-grade CDP" that will go general availability in June 2020. Salesforce said CDPs represent an evolution of CRM and it is the duty of the company to redefine it.

While Salesforce announced Customer 360 at last year's Dreamforce, the initiative only succeeded at tying together customer use profiles from Salesforce Marketing Cloud (ExactTarget), Sales and Service Clouds, along with Commerce Cloud (Demandware). The new Customer 360 provides a way to stitch customer records across these Salesforce platforms where they persist in a unique customer id. In doing so, it builds upon and extends Customer 360 to provide a holistic data ecosystem.

Key messages

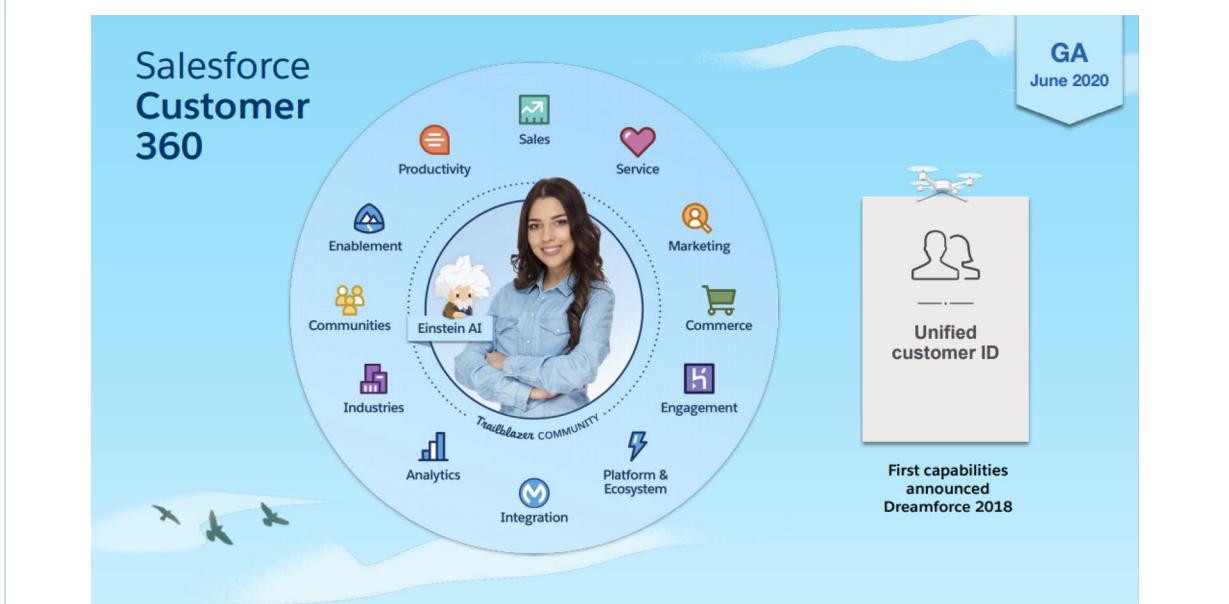
- Customer 360 is embedded natively into Salesforce.
- The process of stitching together individuals from different clouds into a federated identity is Salesforce's unique ability.
- The CDP can unify known and unknown data. Unknown data is stitched together from multiple mobile devices and thousands of data sets via cookies, mobile ad ID, web analytics (Adobe and Google), and 2P/3P data, as well as cross-device ID management.
- The CDP features a robust API framework that enables integrations along the entire martech and adtech ecosystem.
- Enhancements to segmentation and activation tools for direct activation to ad channels.

Highlights

The catalyst for Customer-360's build-out stemmed from the myriad interviews between Salesforce and customers who said they need a faster way to put cloud data to work for marketing. Many also required a real-time profile store, a single place to conduct segmentation, a process for managing consent across all data environments, a way to activate content and offers across all channels, and data-driven insights.

These interviews culminated in improvements made to Customer 360, which is embedded natively into Salesforce, and as such, will act as a storage layer for all the consumer data and interactions. By layering an audience segmentation engine on top of the data layer; connecting activation engines to allow enterprises to interact via multiple channels, including SMS, email, or social media; and integrating an insights engine to collect engagement data based on how the audience is interacting with campaigns, Customer 360 aims to help Salesforce customers close the gaps in their customer experience efforts (see Figure 10).

Figure 10: Customer 360 unifies customer data across multiple channels



Source: Salesforce

Customer 360's capabilities align with Ovum's criteria in the following ways:

Ingestion and identity

Customer 360 ingests known data from sales, service, commerce sites, marketing, point of sale, and CRM data. Meanwhile, A data ingestion API into Customer 360 and Audience Builder, which manages PII data, enables the known data from 360 to converge with the identifiable data in the DMP. Mulesoft also plays a role in some of the data aggregation, indexing, and reformatting. The combination of Datorama, SessionM, and Interaction Studio (Thunderhead) also enables the core data processing capabilities.

Salesforce has invested in obtaining the data to build a PII-based ("known") and pseudonymous ("unknown") identity graph to power two core capabilities: offering onboarding services by getting data from Marketing Cloud directly into its DMP; and re-identification, which enables Salesforce, with proper consent, to leverage pseudonymously collected data for personalization in known channels like email. By augmenting its native cross-device graph with partner data, Salesforce asserts it can meet or exceed any competitors' identity offering.

Unification and persistence

Salesforce unifies individual records from different clouds into a federated identity. Those records persist through a single ID stitched from field mapping, DMP technology, and investments around customer resolution and identity management.

Through Salesforce's Data Unification, enterprises will be able to unify all their customer data to create rich customer profiles. This includes known and unknown data. Unknown data is stitched together from multiple mobile devices and thousands of data sets identified via cookies, mobile ad ID, web analytics (Adobe and Google), and 2P/3P data, as well as cross-device ID management. Salesforce stitches this rich data exhaust into a single pseudonymous record housed in its DMP.

Customer 360 handles data efficiently by letting it reside in the systems that manage it and calling upon it when needed, rather than creating massive centralized lakes of duplicate data. This method

avoids the cumbersome process for marketers and customer support agents, who must typically sift through reams of data, including past purchases, to handle real-time inquiries.

Segmentation and analytics

Native analytics and integration with Google Analytics 360 enable enterprises to deliver insights across the various clouds. Additionally, the integration of Einstein Insights, will allow enterprises to leverage AI to drive the most relevant mix of products and recommendations to optimize channel engagement. Einstein Insights continuously updates customer profiles based on their behaviors as customers click on an ad, browse an ecommerce catalog, buy a product, or open an email.

Then Audience Segmentation and Datorama allow enterprises to identify specific audiences and cohorts to engage with based on a combination of factors including demographics, engagement history, web browsing activities, marketing email interactions, and previous purchases. Enterprises also can enrich the campaigns with KPIs, and identify new opportunities created in the system, as well as calculate revenue per campaign.

Data governance

Salesforce is building end-to-end data rights management. With Salesforce's Consent Management Framework, companies can gain customer consent wherever they engage – from email marketing to digital advertising. Much of the work for Customer 360 has already been accomplished in Audience Studio, the Salesforce DMP. The platform handles both consumer rights management and data rights management that is necessary for provisioning data safely to partners, via Data Studio. Salesforce's governance tools support six specific consent flags, going beyond minimum standards. The platform is also flexible and aligns with the requirements of various policy regimes including the GDPR and the forthcoming CCPA. It also enables customers to apply customized standards. Leveraging the work Salesforce has already done in Audience and Data Studios will give Customer 360 a faster start.

Integration and orchestration

Once an enterprise identifies specific audience segments, it can then activate the customer data across marketing, commerce, and service via an integrated approach in channels like ads, email, social, mobile, and web. Datorama's APIs cover the full spectrum of the martech and ad-tech ecosystem so enterprises can connect to any data source – social, search, display, video, programmatic, web analytics, CRM, email, and more – all in one place. Other Marketing Cloud components provide the delivery capabilities that sit outside of the CDP, either directly (email and DMP) or through integrations.

Datorama's integration engine provides tools to integrate performance data through 150+ marketing and advertising API connectors, AI-assisted flat-file integrations, a harmonization center to standardize taxonomy, and an automatically generated data model to support cross-channel marketing analysis. Datorama's Marketing Intelligence platform gives marketers a single view of marketing performance across channels. Then through Interaction Studio and Journey Builder, enterprises can engage in real time via display, video, email, SMS, social media, and mobile.

Visualization and measurements

Paired with Datorama's Insights Engine, the platform illuminates an enterprise's marketing intelligence, providing real-time optimization and reporting. The Insights Engine brings visualizations and AI ML to a team's marketing analytics, giving enterprises a holistic view of their connected data.

The Insights Engine allows key departments and employees to monitor and report marketing data in a unified platform, providing each stakeholder with AI-surfaced KPIs, trends, and drill-downs.

Current position

Salesforce is conducting due diligence with the launch of Customer 360. It recently selected several pilot participants over the summer, and the company plans to announce the selected participants following Dreamforce in November. The active pilot will last a couple months and then participants will enter V2 of the pilot. Then Salesforce will consider their feedback to improve the product functionality, with the goal of going GA by June 2020. The next generation of Customer 360 will include new features and functionality announced in fall 2019. They will include a consumer scale data store, new segmentation and activation tools, and AI-powered insights.

Appendix

Market Radar

The Market Radar provides an overview of technology markets by defining specified categories, summarizing the business benefits, recommending actions, and predicting future trends. The research also "On the Radar" profiles of the technology vendors within the category and a review of their capabilities and functionalities.

Further reading

Customer Data Platform Industry Update, July 2019, www.cdpinstitute.org

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We hope that this analysis will help you make informed and imaginative business decisions. If you have further requirements, Ovum's consulting team may be able to help you. For more information about Ovum's consulting capabilities, please contact us directly at consulting@ovum.com.

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