



Tackling Enterprise Marketing Analytics with a Customer Data Platform

Should you build or buy?

How best in class companies are looking at the business impact of building their own customer data platform vs utilizing a prebuilt SaaS platform.



CaliberMind

A Short Intro.

We often get asked, “How is CaliberMind different from Snowflake”. It’s a totally valid question, and points to confusion in the marketplace around the differences between a CDP and a Data Warehouse. Frequently, what is really being asked is, “Why should I use a CDP and not just build my own platform?”

At the highest level, the core difference is that a Data Warehouse is a great place to centralize data and information for reporting, but requires a lot of time and energy to turn into something an organization can really leverage day to day. A CDP is a Data Lake and a Data Warehouse, and adds functionality that ranges from data cleansing and segmentation to orchestration and deep marketing analytics.

Tying Everything Back to the Business.

Before we begin any comparison though, it's important to outline the core business problems driving your organization to start considering a new solution. At the end of the day, nobody wants a new data warehouse, or CDP, just for the sake of having a new technology. The platform must support core business goals.

Significant improvement of your marketing campaign effectiveness.

Increase your visibility and access to how effective your campaigns and content have been across the entire the customer journey - from unknown visitor to customer.

Deep insights into your marketing spend and ROI.

With a comprehensive view of performance that's tied directly back to your budget you can better understand the return on your marketing investments to improve quarter over quarter.

More efficient analytics processes and automation.

By automating reporting, your marketing team can now focus their time and resources on delivering insights instead of wrangling data from dozens upon dozens of sources.

Lorem ipsum



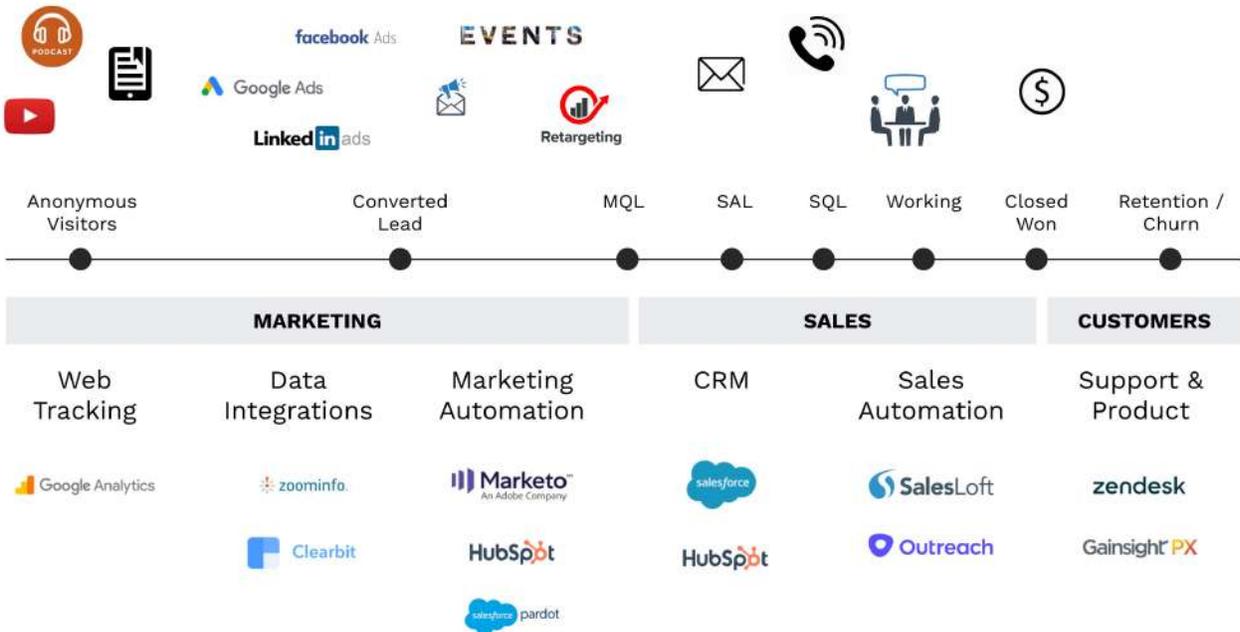
[The Forrester CDP Wave Report and CaliberMind. Why You Should Care >>](#)

The Forrester New Wave Report™ B2B Customer Data Platforms, Q2 2019

In Forrester's evaluation of the emerging market for B2B customer data platforms (CDPs), they identified the 13 most significant providers in the category and evaluated them. This report details their findings about how well each vendor scored against 10 criteria and where they stand in relation to each other. B2B marketers can use this review to select the right partner for their B2B CDP needs.

[Download the Report](#)

Does This Look Familiar?



Most organizations have anywhere from 10 to 20 different marketing platforms. Let's assume that there are just 5 core systems of record and data sources that need to be integrated together.

Customer Relationship Management	Marketing Automation Platforms	Website & Digital Management	Data Orchestration & Management	Digital Advertisement Networks
Salesforce.com or another CRM with API-level access, such as SAP Hybris	The major players are Marketo, Eloqua, Hubspot, and Pardot	Clickstream data from web platforms through a tag or product, such as Adobe Analytics	Contact and company data info from D&B, Discover Org to Intent Data from Bombora	Ad data from LinkedIn, Google Ads, Facebook, YouTube and more.

Building Your Own.

If the primary goal of your project is to be able to support deep marketing analytics, then we should begin by defining exactly which types of reports would be required. For this comparison, let's assume that the focus is on showing Marketing Attribution, Return on Ad Spend, Customer Engagement, and Funnel Performance. For Attribution, the system needs the ability to handle Multi-Touch Attribution models and optionally support deeper machine learning models down-stream.

The second goal is to be able to orchestrate and push segments back out to the systems of engagement. To simplify things, let's assume there is a requirement to push segments of users into the Marketing Automation Platform and CRM based on receiving intent signals.

Note that there are many ways to create and build your own solution; this is just one architecture.

Phase One: Set Up Your Data Warehouse

Step One: Select a Location to Store All Data Feeds

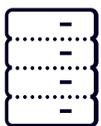
First, you need to decide where you would like to store your data. You will also need to decide if you want to store raw data or transform the data on the fly using an ETL framework. There are advantages and disadvantages to both. Here, we are making the decision to store the raw data and then use views to transform the data.

The primary reason is so that we have a single location for all of our source data. This gives us the flexibility downstream if we decide later on to change the layout-structure of our abstraction layer. We can do so without causing us to have to fully refresh all of our data from the systems of record. It is also a bit more complicated to store the logic of your transformations in a third-party tool, and often requires that the mappings be done in a language like JS or Python.

Some options here for storing your raw data are AWS Redshift or Snowflake.



Resources Needed
Marketing Operations,
Data Analyst,
IT selection team



Data Warehouse
Snowflake, AWS Redshift

Step Two: Create and Enable the Data Loads into the Data Lake (ELT)

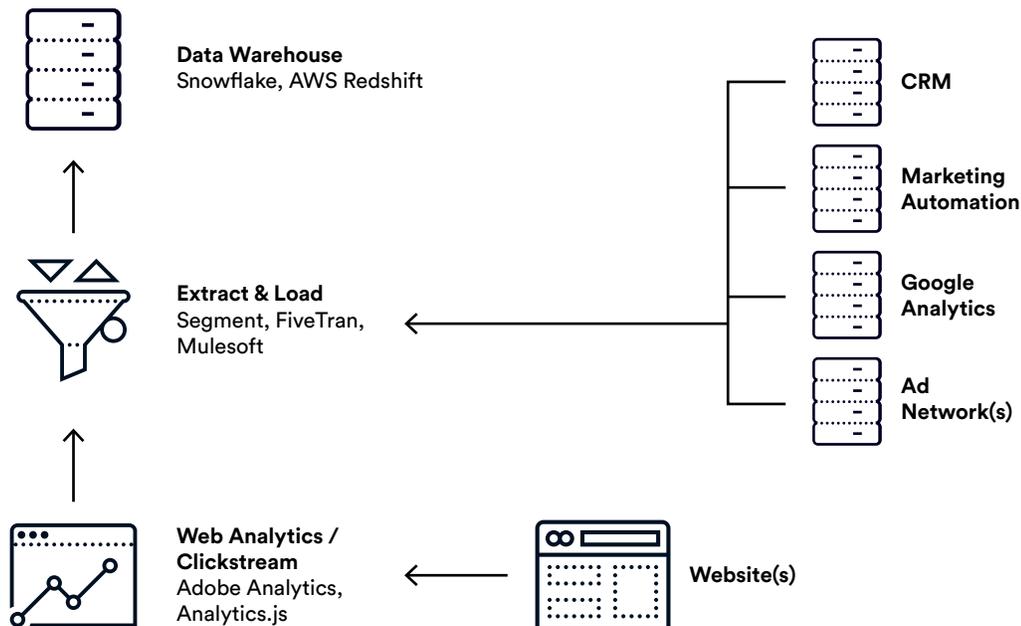
With your Data Warehouse chosen, you now need to setup the feeds into the database from your systems of record. There are many different options for this layer, and many platforms have built-in connectors. You need to make sure that the platforms you select have connectors for all of your primary systems of record - or the ability to create and customize your own.

A key consideration when building out the data load is scheduling frequency and API limits. You need to make sure that as you connect to your systems of record you do not exceed any API limits they may impose, and are using the most efficient methods for loading data (ex. Bulk API for Salesforce.com, both the SOAP and Bulk API's for Marketo).

Some options for setting up your data loads are through products like FiveTran, Segment and Mulesoft.



Resources Needed
Data Analyst, Javascript/
Python Development,
IT Team



Step Three: Design a Set of Standardized Tables (Abstraction Layer) to Support your Event and Identity Graph

To be honest, this step may be the most important, and difficult, out of everything that needs to get done. At this time, you need to design a set of tables, or views, that combine the information from all of your platforms and can support Attribution, Engagement Scoring, and feature engineering for Machine Learning algorithms (if required).

At the core of what needs to get built is a combination of an event and identity graph. The event graph is required for creating deep marketing analytics, and the identity graph enables you to relate individuals to accounts and determine engagement and buyers journeys. Eventually, the identify graph is required for any type of segmentation.

This abstraction layer can be accomplished in many ways, but a typical path is to use views written in SQL which sit inside your data warehouse. An issue you may run into with views is that performance with large systems is not truly built for real-time queries. Here, we decided to add a caching layer (potentially in PostgreSQL) to support faster reporting and closer to real-time needs for engagement scoring.

A key consideration is the frequency of transformations and flexibility of the mappings you wish to create. For example, what if the revenue fields your team uses to track closed won opportunities change - how will you remap that into your platform without affecting all of your data-modelling? What if you need to run multiple funnels for different business units - with different fields indicating status - will your mapping be setup to handle that level of complexity?

A lot of thought should be put into how you want to setup this mapping and transformation layer, as it will govern how flexible your system is down the road as business requirements change.



Resources Needed
Data Analyst, Database /
SQL Developer

Step Four: Implement Your View Layer

Now that you have designed your abstraction/view layer and decided if you need a caching layer, you can implement the system. Here, you will hook up your loads to your data warehouse, test out your views, and make sure that your abstraction layer populates properly.

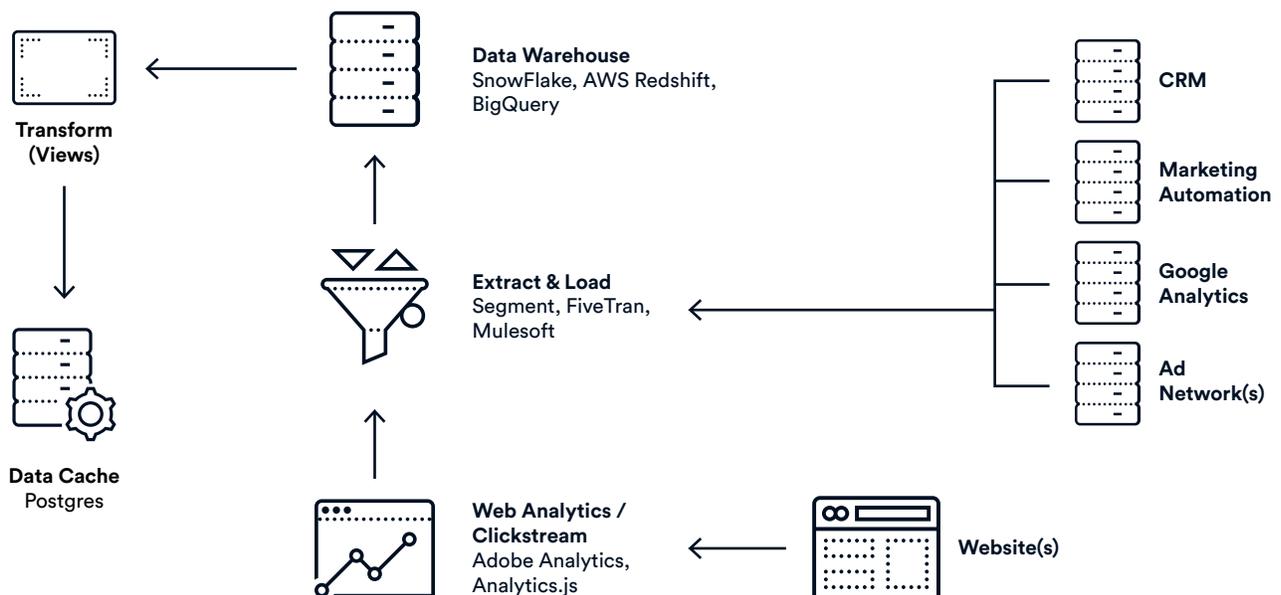


Resources Needed

Data Analyst, Database / SQL Developer, IT Team

Some key considerations at this point are understanding the frequency of data loading, how real-time the system needs to be, making sure you are not hitting any API capping limits, and that your new tables support the modeling you wish to perform.

Ex. If you are building out marketing attribution, you may only need to load in data every day. However, if you are creating ABM-based engagement scoring, your system may need to react closer to real-time in order to trigger events out to your sales team and marketing platforms.



Phase Two: Building Your Marketing Reports and Analytics

With phase 1 complete, you now have a set of abstraction tables, or views, that consolidate all your marketing and sales information to a set of graphs. This is a huge step, and gets you pretty far along the path of achieving your core business goals.

Now let's focus on building out a framework to enable you to achieve the business goal of creating marketing analytics, specifically around Marketing Attribution at the campaign level.

Step Five: Understand Your Campaign and Channel Management

Before starting this process, it is critical to understand how, as a business, you are managing campaigns across your marketing organization. Campaigns can be managed in the CRM, within the MAP, and within your Ad platform. We are not going to go too deep into how to create a campaign layer, but want to point out that this needs some careful consideration. After this step, you should have tables or views that consolidate your campaigns with enough data to support downstream attribution.



Resources Needed

Marketing Operations,
Marketing Demand Team,
Business Analyst /
SQL Developer

Step Six: Decide on Your Attribution Model and Campaign Framework

With your platform built, data models ready, and campaign tables created, it's now time to start creating your first set of attribution models. Start by settling on the types of attribution models you would like to run on your marketing data. Some options are First Touch, Last Touch, Multi-Touch, Even Weighting, Time-Decay, etc.. For each model, you will need to decide on, at a minimum, the following parameters:

Time-frame in which event data is relevant

Which marketing **events count** toward the model

System of record for your campaigns and channels

Mechanism for associating an event with a marketing campaign/channel

Handling of special rules (i.e. do contacts on an Opportunity Role get more credit?)

Whether or not you want to **relate Ad data/UTM Codes**, etc. to the models



Resources Needed
Marketing Operations,
Data Analyst

Step Seven: Build Your Attribution Models

Once you have decided on the rules for your attribution models, it's time to build them. This can be done in many different ways. A simple mechanism would be to use your BI tool (e.g. Tableau, Looker, Domo, Microsoft BI) to build your modelling in directly. You can also use a set of views in your data warehouse, or build out code at your caching layer.

At the end of the day, the true complexity is ensuring that all relevant events get the correct amount of credit, that the revenue numbers add up, and that you can easily switch between different models. For example, your marketing teams may want to view First-touch and a W-shaped model of attribution on the same data, as they tell different stories.



Resources Needed
Marketing Operations,
Data Analyst,
SQL Developer

Step Eight: Create Your Reports

This is the fun part. After all that work, it's time to start creating your Attribution reports that sit on top of the models you created above. These reports will probably be driven by your business users (e.g. CMO, VP Demand, Director Growth) and focus on answering very specific questions. We won't get into the entire list of options here, but a few types of reports you may need are:



Resources Needed
Marketing Leadership Team, Data Analyst, SQL Developer, BI Tool Expert

Channel Performance

How well each channel is performing

Marketing Sourced vs Influenced Revenue

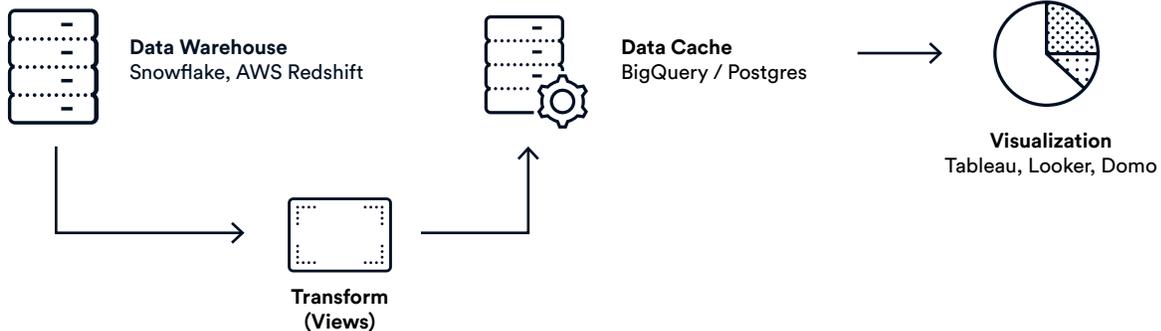
How much revenue did marketing source vs. influence (pre- and post-opportunity creation)

Return on Ad Spend

How much revenue was generated for every dollar spent on your Advertising platforms and what was the ROI

Campaign Influence

How much revenue did each campaign drive, which customers did it influence, when in the funnel is it most effective



Phase Three:

Customer Journey Engagement

Up to this point, we have dealt with Attribution. If that is all you need, you can skip this section. However, many customers are looking to pull all their customer data together so they can not only understand marketing performance, but also figure out how engaged their prospects and customers are with their organization.

Phase 3 is to create engagement scoring and engagement scoring models. Engagement scoring is way of looking at your customers and buyers that shows their complete buyer journey, including all marketing, sales and other engagement points.

You can think of engagement scoring as lead scoring on steroids; it covers a broader range of events and rolls up to an account, not just a lead or contact. Engagement scoring is often the precursor to any level of automated ABM-related activities.

Creating an engagement model is very similar to building out Attribution, and requires many of the same steps (e.g. creating an abstraction layer, building out a model that performs your scoring, and creating top level reports that can roll up scores to the individual and account level). These reports should also show trends and be able to be filtered by specific segments, such as geographic region, product, selling team, and any criteria the business requires.

One challenge you will need to work through is the refresh rate of the data. As you begin to use engagement scores, your need for closer to real-time data analysis increases dramatically. For instance, if you want to use engagement scoring to trigger BDR/SDR outbound activities, your data should refresh in a minimum of 1 hour. This could dramatically change your architecture.

Another difference in this phase is that it typically involves not only marketing, but sales as well. Setting up engagement will require feedback from sales operations as well as marketing.

Phase Four: Pushing Data Back to Your Systems

Many organizations need their final system to not only be able to pull data in and analyze, but also be able to push data back out to their systems of record. For instance, what if, after analysing your attribution models, you would like to create a segment of customers and push that list out to a social platform for ad targeting? How about pushing the engagement score back into your CRM so that the sales team can use it in their reporting?

All of this requires that the platform has the ability to push data back to systems of record. We won't cover all the steps involved here, but at the highest level, it requires the creation of a scheduling and workflow product, and the abilities to dynamically pull lists or segments, select fields to map to the destination system, and trigger API calls to push data and lists to the CRM and MAP.

Phase Five: Operationalize and Running the Platform

By now, your system is built, data is flowing, reports are running, the marketing team is using the information to make decisions about which campaigns to run and how to better target segments of customers, and they are seeing the return on their marketing spend.

At this point, there are decisions to be made around how to keep the platforms operational, ownership of modifications to the platform, and syncing with any changes in the systems of record.

In most organizations, once a platform like this is deployed into production, management would move to the core IT team and DevOps, if available. Some core considerations to think through when scoping out final deployment of the platform are:

Who currently owns and runs the systems of record (MAP, CRM, other Databases)?

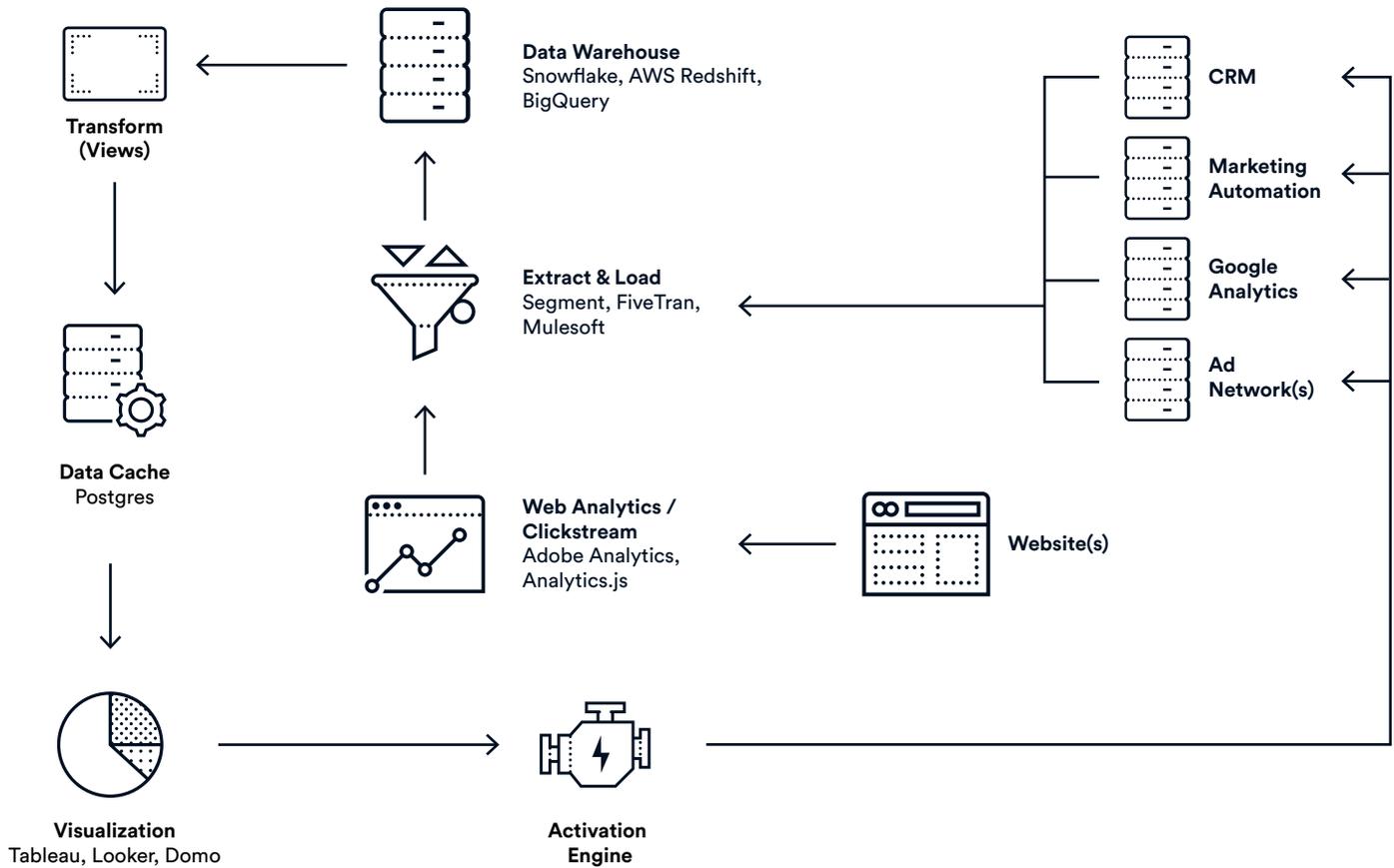
Will management and maintenance fall to the BI/BA teams, Marketing Operations, Sales Operations, or a different unit?

How quickly can the teams respond to changes from the business? For example, say that Marketing adds a new platform into the mix (e.g. adding in an Intent data-source such as Bomobora or BigWillow) - who owns adding those data sources to the platform and getting them to flow through all the tables?

If there are issues and problems with the system, for example the platform starts to run into API limits against the CRM, who has primary ownership of the issue?

All of these are standard issues for any company building out a new internal support platform. It is, however, very helpful to think through these issues prior to final deployment to ensure everything continues to run smoothly.

Final Architecture



Using a Customer Data Platform (CDP)

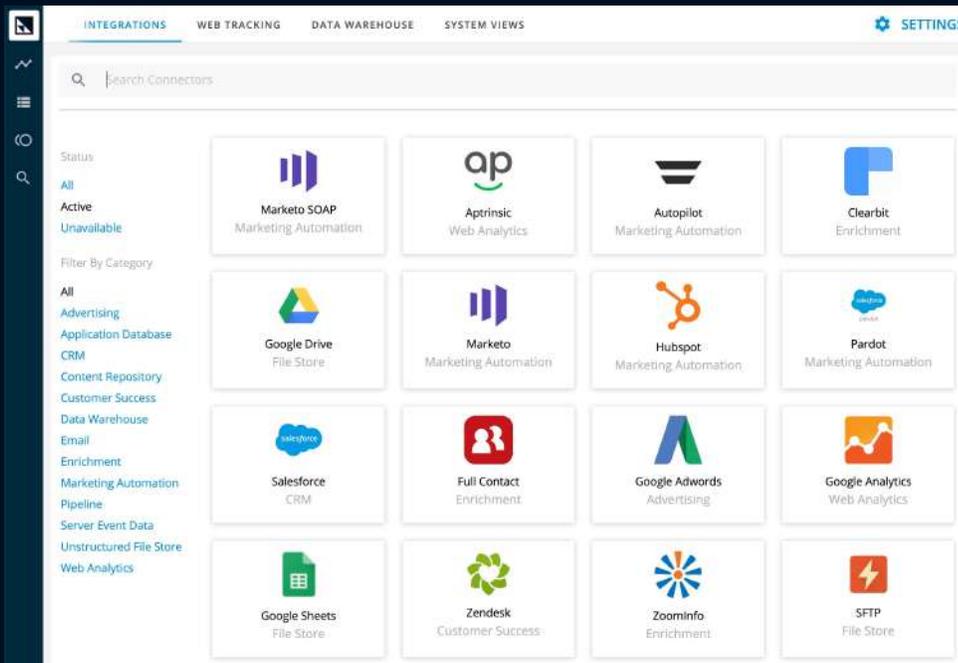
The alternative to building out your own platform is to use a third-party vendor to deploy an application with similar capabilities. A Customer Data Platform (CDP) is, at its core, a Data Warehouse with tools built around it to support everything from segmentation to deep data analysis. There are different vendors in the CDP space, 13 on the current Forrester CDP Wave report, and all have different capabilities. It is worth evaluating the vendors to make sure their capabilities align with your core business objectives.

Below, we are going to show what it would be like to use CaliberMind to implement the same DIY process outlined above, with the same business goals in mind.

Step One:

Connect CaliberMind to all of your primary data sources (CRM, MAP, Ad, Intent, Clickstream)

A CDP such as CaliberMind handles much of the internal plumbing, data modelling, and creation of the higher-level tables and views for you. In many instances, hooking up source platforms can be as easy as using 1-click connectors. If there is any customization (e.g. revenue must come from a specific custom field), you can do that configuration through the mapping layer.



Step Two:

Work with your dedicated BA team to define your core business goals, reports, and orchestrations (Attribution Rules, Engagement Rules, Segmentation)

Once you have connected all your systems of record, it's time to get down to the nitty gritty of the project. With CaliberMind, you will work with your dedicated Business Analyst (BA) on scoping out the project, defining your core business goals, and outlining the models and reports you need. CaliberMind comes with pre-built Attribution Models, Engagement Scoring Models, and Reports.

The key activity at this step is to start looking at your data-sources, how your campaigns are managed, where you will get information such as campaign costs, and understand how your team is going to use the data and information.

Much of the time and effort at this stage is about ensuring that CaliberMind is properly crediting the correct values to the Attribution and Scoring models, deciding how to map the campaigns and events from different sources, and validating the data in the reports.

The output of this step is a defined project plan and goals that will achieve the desired business outcomes.

Step Three:

Fix Your Data

Oftentimes, once the systems of records have been plugged into CaliberMind, there are issues that need to be resolved around the data itself. For example, do all of the accounts have domains associated with them? Are there orphaned leads that need to be taken into account properly for attribution? Are there account records that need to be merged together?

During this phase, CaliberMind activates a number of workflows and helps to de-dupe, merge, and fix the data within the systems of record. This is a crucial step, as it ensures that the reporting and analytics created later on are more accurate.

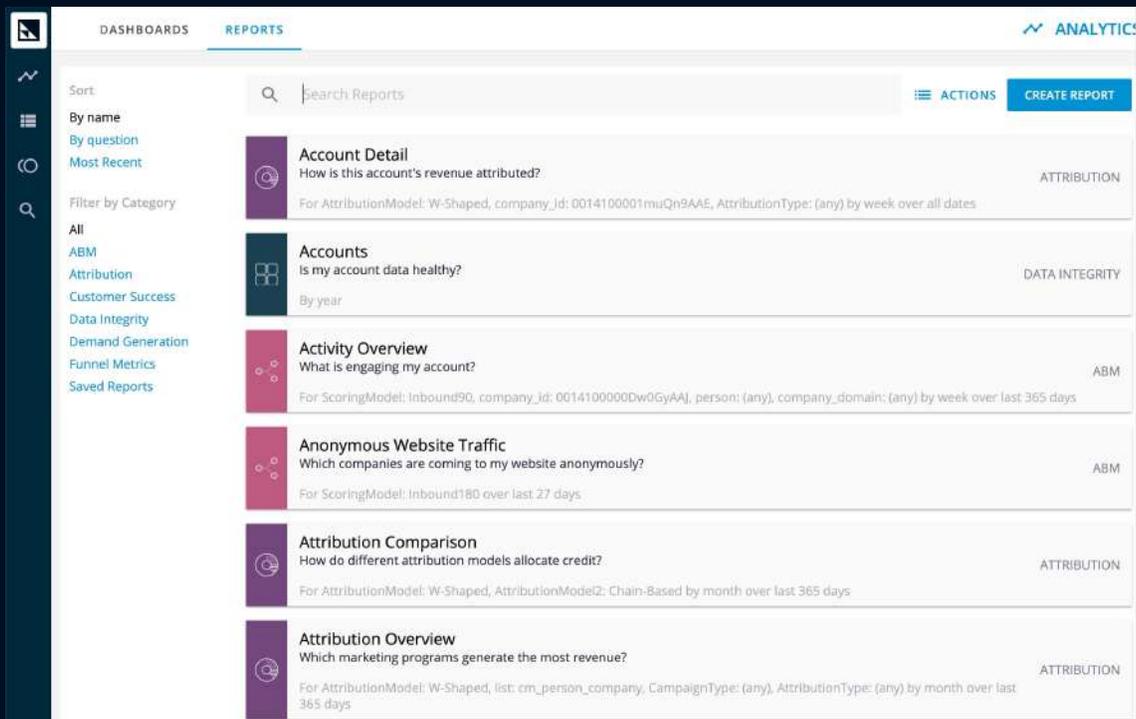
Step Four:

Review the reports and analysis with your internal business teams to ensure they are properly aligned

After steps 2 and 3, the CaliberMind BA team will setup the models, configure the reports, and help create any initial segmentations that will filter the data and information.

The key to any data analytics project, however, is that all teams buy in on the reports and that the data is an accurate reflection. At this stage, the CaliberMind BA team will sit down with the Data Analyst and Marketing Operations teams to present the core business reports and findings to the executive sponsors of the project.

Once the Executive Sponsorship team has approved the reports, the BA team, alongside the Data Analyst and Marketing Operations, will finalize any tweaks and push the reports to production.



Step Five:

Setup any Orchestrations and Workflows that need to push data back out to your systems of record

CaliberMind supports many different types of data orchestrations and automated segmentations. You will want to setup and automate many of these using CaliberMind's segmentation and workflow tools. Some types of processes you may want to setup and automate are:

Intent to Nurture

Take intent, including anonymous web-site traffic and direct intent data feeds, and automatically enrich, find titles, create a segment, and push said segment to your MAP and CRM for follow up and nurture campaigns.

Engagement to BDR/SDR follow up

When CaliberMind notices that a specific customer is engaged, automatically trigger notifications to the BDR/SDR team directly inside the CRM.

Additionally, push the engagement scores, last engagement date, and other key criteria onto the accounts and contacts within the CRM so the sales and business development teams can access the information immediately.

Normalize titles and roles

Have CaliberMind normalize titles and roles into a set of standardized titles and personas within the organization. This makes it easy to segment users for outbound activities. Push this information back into the systems of record like the CRM or MAP.

Step Six:

Deploy and Train

Once CaliberMind is setup and running for your organization, your team should go through training on how to perform many of the capabilities directly with CaliberMind. Training can include:

How to use CaliberMind's segmentation tool to easily create new segments, combine data from different platforms, and build targets

Building Workflows to automate many processes, including activation and orchestration

Creating new scoring models and deploying into your environment for engagement

Using segments and filters to create new reports and saving them for later use

Adding and removing users from the platform

Step Seven:

Connect CaliberMind Directly To Your BI

Many organizations have BI tools that they would like to ensure can access the data and information sitting in the data warehouse. For example, oftentimes companies already have Tableau, Looker, Domo, and other BI tools. There is often a need to bring in the data within CaliberMind, especially around Funnel and Marketing performance, to centralized reports that consolidate data across the businesses.

This is very easy with CaliberMind, as the BI tools can be pointed directly to the CaliberMind data warehouse and be able to leverage the same tables that CaliberMind's reports and workflows are built upon.

Where Does Machine Learning Fit In?

The holy grail of having all this data is to be able to get insights and understandings about the behavior of your customers and prospects and be able to act upon it quickly and efficiently. Machine Learning is the next evolution of marketing analytics and promises to allow you to turn that data into activities and actions. For example, Markov Chain is an algorithm that can take an outcome (e.g. MQL creation) and determine the best set of campaigns that lead to that outcome. It can even predict what the next best action could be.

The challenge is that to support these algorithms, you need to have your data setup in a way that the algorithms can learn from, and that support meaningful outcomes. This is often called feature engineering and is a core activity for the BI team.

CaliberMind has been built, from day 1, to be able to support Machine Learning algorithms. The data, views, workflows and underlying technologies were purpose-built to deliver not only deep marketing analytics, but to do so in a way the supports Markov and other algorithms.

If you are building your own platforms, and wish to do Machine Learning down the line, there are requirements over and above what has been discussed in this paper. Those requirements could expand the scope of the project and require resources that understand ML, Python and data pipelining.

Thank You.

CaliberMind is a customer data platform built for B2B enterprise revenue marketers that use data, analytics, and automation to grow revenue faster, together with sales. **Learn more at www.calibermind.com.**



CaliberMind Customer Story
