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ASTAPOR MARKETING ATTRIBUTION

SALESFORCE APP WALKTHROUGH

TABLE OF CONTENTS

Set Up Your Attribution Model.....	2
General Information.....	2
Model Information.....	3
Attribution Type	3
Attribution Model	5
Running the Model	12
See the Results of the Attribution Process.....	13
App Home Page and Dashboards.....	13
Opportunity Attribution Details	14
The Prediction Engine In Astapor Marketing Attribution.....	15
Conversion Probability for Opportunities	15
Improving Conversion for your Opportunities	15
Cost Calculation for Activities, Leads and Campaigns.....	16
User Hourly Rate	16
Task and Event Costs	16
Lead Cost.....	16
Campaign Cost	17
Scheduling the Attribution Process.....	18
Performance Considerations.....	18
Limits.....	18

SET UP YOUR ATTRIBUTION MODEL

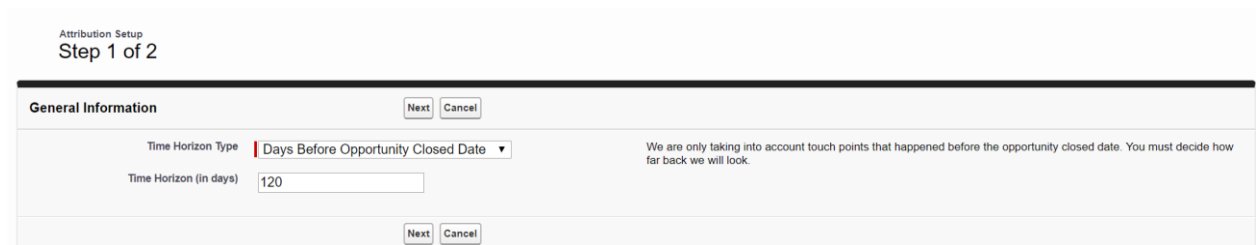
The first step in using Astapor Marketing Attribution is to set up your attribution model. This is easily done through our wizard, available under the Attribution Wizard tab in the app.

GENERAL INFORMATION

On the first wizard page, you will have to fill in the **Time Horizon Type** field. You can choose one of the following options:

- **No limit:** All interactions with the customer are taken into account, no matter how far back in time. The cutoff date is the opportunity close date.
- **Days Before Opportunity Created Date:** We are looking back at customer interactions for a number of days before the opportunity created date. You must decide how far back we will look. The cutoff date is the opportunity close date.
- **Days Before Opportunity Closed Date:** We are looking back at customer interactions for a number of days before the opportunity closed date. You must decide how far back we will look. The cutoff date is the opportunity close date.

For the last two options, you will need to set up the duration of the look back interval. For this, fill in a whole positive number in the **Time Horizon (in days)** field.



Attribution Setup
Step 1 of 2

General Information Next Cancel

Time Horizon Type Days Before Opportunity Closed Date ▼ We are only taking into account touch points that happened before the opportunity closed date. You must decide how far back we will look.

Time Horizon (in days)

Next Cancel

FIGURE 1: STEP 1 OF THE ATTRIBUTION WIZARD

Note: Using any of the **Days Before...** options and reducing the number of days will not necessarily improve the processing speed, because we need to fetch all attribution data before processing it.

Once you have filled in the required parameters, click **Next**.

MODEL INFORMATION

ATTRIBUTION TYPE

On the second step of the wizard, we will need some input about the model you are planning to use.

Before we set up the model, you have to choose the scope of your attribution process. For this, choose an option in the **Attribution Type** picklist. You can select one of the following:

- **Campaign (Marketing) Attribution:** The opportunity value will only be distributed across the marketing campaigns that have influenced it. No sales activities will be credited for the conversion.
- **Activity (Sales) Attribution:** The opportunity value will only be distributed across the sales activities that contributed to the conversion. No marketing campaigns will be credited for the conversion.
- **Both:** The opportunity value will be distributed to all customer touch points, both marketing campaigns and sales activities.

Here's how this works. Let's assume you have the following data:

Opportunity	Contact Roles on Opportunity	Campaigns	Tasks and Events
Burlington Textiles Weaving Plant Generator	John Smith – Decision Maker	Email newsletter campaign	Exploratory Phone Call
		Webinar	Meeting to discuss your product
	Annabelle Smith - Influencer	Conference	Follow up email
		Webinar	CC-ed in follow up email

When you choose **Campaign (Marketing) Attribution**, only the highlighted customer interactions will be selected for attribution.

Opportunity	Contact Roles on Opportunity	Campaigns	Tasks and Events
Burlington Textiles Weaving Plant Generator	John Smith – Decision Maker	Email newsletter campaign	Exploratory Phone Call
		Webinar	Meeting to discuss your product
	Annabelle Smith - Influencer	Conference	Follow up email
		Webinar	CC-ed in follow up email

When you choose **Activity (Sales) Attribution**, only the tasks and events for the opportunity contacts will be selected for attribution.

Opportunity	Contact Roles on Opportunity	Campaigns	Tasks and Events
Burlington Textiles Weaving Plant Generator	John Smith – Decision Maker	Email newsletter campaign	Exploratory Phone Call
		Webinar	Meeting to discuss your product
	Annabelle Smith - Influencer	Conference	Follow up email
		Webinar	CC-ed in follow up email

ATTRIBUTION MODEL

Once we have decided which customer interactions we are looking at, we need to decide on the model type used for attribution. In the **Type** picklist, you can choose one of the following:

- **First Touch:** This model assigns 100% of the opportunity value to the first (oldest) interaction with the customer. If there are more interactions at the same time, the opportunity value will be split evenly between them.
- **Last Touch:** This model assigns 100% of the opportunity value to the most recent interaction with the customer. If there are more interactions at the same time, the opportunity value will be split evenly between them.
- **Linear:** This model distributes the opportunity value evenly between all the interactions with the customer.
- **Time Decay:** This model assigns a decreasing share of the opportunity value to the customer interaction, based on when the interaction took place. The older the interaction, the smaller the share.
- **Position (U Shaped):** This model assigns 40% of the opportunity value to the first and the last interaction with the customer. If there are more interactions at the same time, the value will be split equally between them. The remaining 20% is distributed equally between the interactions in the middle.
- **Custom:** This model distributes the opportunity value based on the weights you set up per campaign type, lead source or contact role. Keep in mind the weights are relative to each other (not a percentage of the total).
- **Probabilistic:** This model learns from the customer journeys in your data set and assigns weights to the touch points based on the outcomes of those journeys. The model is using Markov chains to determine the probability of conversion for each interaction with the customer.

If you have selected **Custom** as the model type, you will be able to edit the weights for the three influence factors we are using to aggregate your data:

- **Campaign Type** (used for campaigns)
- **Lead Source** (available for all activities and campaign members)
- **Contact Role** (based on the role the contact has on the opportunity).

You can mix the three dimensions as you wish, and the resulting weight will be a combination of the individual weights of the dimensions you are using.

Astapor Marketing ... Attribution Home Attribution Wizard Attribution Setup Attribution Models Attribution Weights Attribution Entries Dashboards

Attribution Model Details
Step 2 of 2

Model Information Previous Save Cancel

Model Setup = Required Information

Attribution Type: Campaign (Marketing) Attribution
Type: Custom

Influence Factors: Available: Lead Source, Contact Role; Chosen: Campaign Type

Run All Models:

The opportunity value will only be distributed across the marketing campaigns that have influenced it. No sales activities will be credited for the conversion.
This model distributes the opportunity value based on the weights you set up per campaign type, lead source or contact role. Keep in mind the weights are relative to each other (not a percentage of the total).
Select the influence factors you want to consider in the custom model. The resulting weight for each touch point will combine the weights for the influence factors you have selected.

Select this checkbox if you want all the heuristic models to run side-by-side with your chosen primary model.

Campaign Type Weights

Advertisement	0.00
Email	0.00
Telemarketing	0.00
Banner Ads	0.00
Seminar / Conference	0.00
Public Relations	0.00
Partners	0.00
Referral Program	0.00
Other	0.00

Previous Save Cancel

FIGURE 2: SETTING UP THE ATTRIBUTION MODEL

Here’s a side by side comparison of the models. Let’s assume you have the following interactions with your customer for a given opportunity of 235.000 USD.

Interaction Date	Opportunity	Opportunity Value	Contact	Activity	Campaign	Campaign Type	Lead Source
8/17/2017	Burlington Textiles Weaving Plant Generator	235000.00	Jack Rogers	Task			Purchased List
8/16/2017	Burlington Textiles Weaving Plant Generator	235000.00	Andy Young		Textiles Conference	Conference	Web

First touch

Since the campaign participation on August 16th is the first interaction with any of the opportunity contacts, this touch point will get 100% of the opportunity value:

Interaction Date	Opportunity	Opportunity Value	Contact	Activity	Campaign	Revenue Percent	Revenue Share
8/17/2017	Burlington Textiles Weaving Plant Generator	235000.00	Jack Rogers	Task		0%	0.00
8/16/2017	Burlington Textiles Weaving Plant Generator	235000.00	Andy Young		Textiles Conference	100%	235000.00

Last touch

Since the task (call) on August 17th is the latest interaction with any of the opportunity contacts, this touch point will get 100% of the opportunity value:

Interaction Date	Opportunity	Opportunity Value	Contact	Activity	Campaign	Revenue Percent	Revenue Share
8/17/2017	Burlington Textiles Weaving Plant Generator	235000.00	Jack Rogers	Task		100%	235000.00
8/16/2017	Burlington Textiles Weaving Plant Generator	235000.00	Andy Young		Textiles Conference	0%	0.00

Linear

Both touch points get an equal share (50%) of the opportunity value:

Interaction Date	Opportunity	Opportunity Value	Contact	Activity	Campaign	Revenue Percent	Revenue Share
8/17/2017	Burlington Textiles Weaving Plant Generator	235000.00	Jack Rogers	Task		50%	117500.00
8/16/2017	Burlington Textiles Weaving Plant Generator	235000.00	Andy Young		Textiles Conference	50%	117500.00

Time decay

The older touch point gets a lower share of the opportunity than the more recent one. We are using a smooth time decay curve, taking into consideration the number of days that passed for the current interaction vs. the total number of days passed for all the opportunity touch points. All intervals are determined in relation to the opportunity close date.

Interaction Date	Opportunity	Opportunity Value	Contact	Activity	Campaign	Revenue Percent	Revenue Share
8/17/2017	Burlington Textiles Weaving Plant Generator	235000.00	Jack Rogers	Task		51.72%	121551.72
8/16/2017	Burlington Textiles Weaving Plant Generator	235000.00	Andy Young		Textiles Conference	48.28%	113448.28

Position

Since we only have two touch points, they will both get 50% of the opportunity value. Normally the position model assigns 40% to the oldest, 40% to the most recent, and distributes the remaining 20% across the touch points in the middle.

Interaction Date	Opportunity	Opportunity Value	Contact	Activity	Campaign	Revenue Percent	Revenue Share
8/17/2017	Burlington Textiles Weaving Plant Generator	235000.00	Jack Rogers	Task		50.00%	117500.00
8/16/2017	Burlington Textiles Weaving Plant Generator	235000.00	Andy Young		Textiles Conference	50.00%	117500.00

Custom

Let’s assume we are using **Lead Source** as a weight dimension in our model.

The following weights have been used:

- Purchased List: 5
- Web: 10

This means the Web lead source is given a weight twice as large as the Purchased List. This is reflected in the attribution as follows:

Interaction Date	Opportunity	Contact	Activity	Campaign	Revenue Percent	Revenue Share	Lead Source
8/17/2017	Burlington Textiles Weaving Plant Generator	Jack Rogers	Task		33.33%	78333.33	Purchased List
8/16/2017	Burlington Textiles Weaving Plant Generator	Andy Young		Textiles Conference	66.67%	156666.67	Web

Note: If you have selected a dimension (e.g. Campaign Type) that is not present in all the data points (in our example, the task on August 17th), only the interactions that have the dimension value present will be weighted. The ones without a value will not receive any credit for the opportunity.

In our example, regardless of the weight for Campaign Type “Conference”, the interaction on August 16th will get 100% of the opportunity value if you are using Campaign Type weights.

When you select multiple dimensions for the custom model (e.g. Lead Source and Campaign Type), we normalize the weights against 100%, we add the weights for each dimension for each touch point, and then normalize the result again.

In the previous example, let’s assume you have also selected Campaign Type, and assigned Conference a weight of 10.

The opportunity value will be distributed as follows:

Step 1: Lead Source weights

Interaction	Lead Source	Normalized Weight
8/17/2017	Purchased List	33%
8/16/2017	Web	67%

Step 2: Campaign Type weights

Interaction	Campaign Type	Normalized Weight
8/17/2017	N/A	0%
8/16/2017	Conference	100%

Step 3: Combine and normalize weights

Interaction	Normalized Weight
8/17/2017	$(33\% + 0\%) / 200 = 16.67\%$
8/16/2017	$(67\% + 100\%) / 200 = 83.33\%$

Here is the final result after combining the weights:

Interaction Date	Opportunity	Contact	Activity	Campaign	Lead Source	Revenue Percent	Revenue Share
8/17/2017	Burlington Textiles Weaving Plant Generator	Jack Rogers	Task		Purchased List	16.67%	39166.67
8/16/2017	Burlington Textiles Weaving Plant Generator	Andy Young		Conference	Web	83.33%	195833.33

Probabilistic

Our probabilistic model uses Markov chains to determine the weight of each campaign type and lead source.

It sifts through historical data, both for closed won and closed lost opportunities, and analyzes the impact each touch point had in the buying decision.

This results in a set of probabilistic weights, which will then be used just like in the custom model.

Run All Models

After setting up the primary model, you can check the **Run All Models** checkbox if you want to also run the heuristic models in parallel (first touch, last touch, time decay, linear and position). This will allow you to use the side-by-side reports to compare the different attribution models.

However, running all the models can put a strain on large databases as it will generate many attribution records.

After setting up the model, click **Save**.

RUNNING THE MODEL

You will arrive at the model processing page, where all you need to do is click **Schedule Run**. The wizard will automatically schedule the attribution process. You can reschedule the steps at your convenience, with the condition that the step order and time intervals between steps should be the same as the ones generated by the wizard.

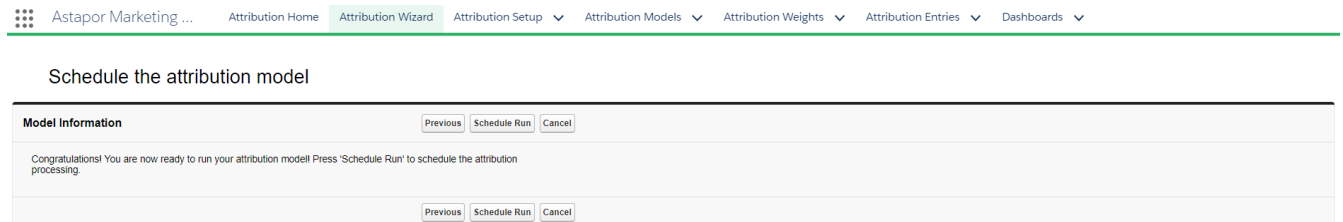


FIGURE 3: RUNNING THE MODEL

SEE THE RESULTS OF THE ATTRIBUTION PROCESS

APP HOME PAGE AND DASHBOARDS

In the Lightning Experience, we have provided a rich dashboard as part of the Astapor Marketing Attribution app home page.

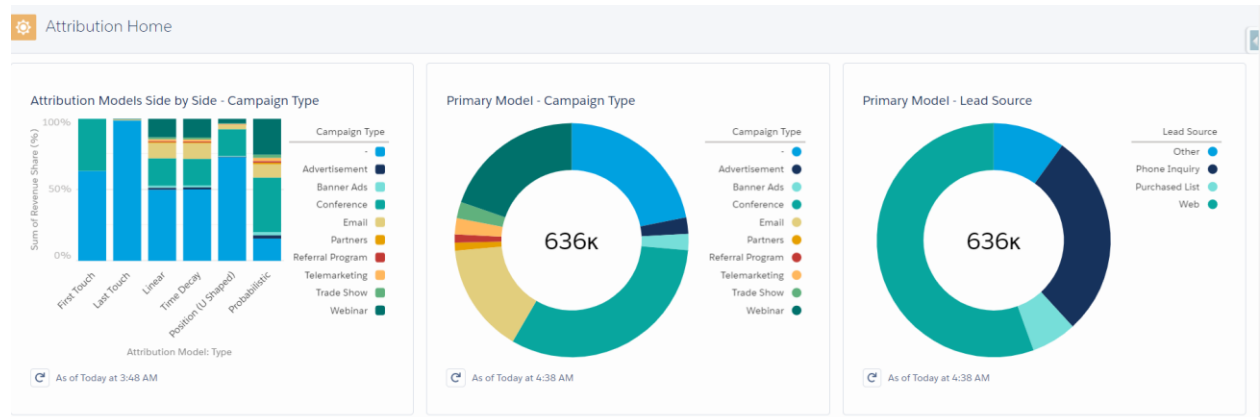


FIGURE 4: THE APP HOME PAGE

Some of the out of the box reports are:

- Side by side comparison of all heuristic model vs. the model you chose to run, for both Campaign Type and Lead Source attribution
- Campaign and Lead Source attribution for the model you configured
- Individual reports for all heuristic models
- ROI report for Campaigns, comparing the attributed value with the campaign total cost
- Sales rep attribution report

We are also providing two dashboard templates that you can customize by adding your own reports.

OPPORTUNITY ATTRIBUTION DETAILS

We are providing a custom opportunity layout, where you can see attribution details for the current record.

You will be able to see a pie chart showing the revenue attribution by campaign type and lead source, and a list of the attribution entries for the current opportunity.

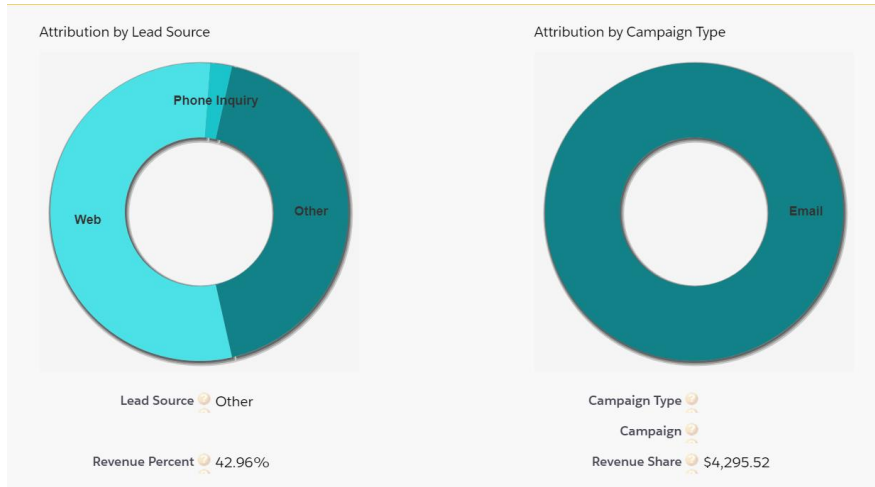


FIGURE 5: OPPORTUNITY ATTRIBUTION DETAILS AS A CUSTOM TAB

In the Lightning experience, this information is presented as a custom tab, and in Classic, as part of a layout section.

THE PREDICTION ENGINE IN ASTAPOR MARKETING ATTRIBUTION

CONVERSION PROBABILITY FOR OPPORTUNITIES

When running the probabilistic model, we can compute the conversion probability for a given opportunity. This is based on the impact each Lead Source or Campaign Type has on the specific customer journey associated to the opportunity.

After running the attribution model, head to the **Opportunity** detail page, and inspect the **Conversion Probability** field.

For opportunities that have had interaction points where we could assign weights, you will see a percent value reflecting the probability that the opportunity will convert.

Only opportunities that are not closed will get a value in this field.

Note: Keep in mind that the conversion probability is based on a snapshot of the current interaction points with the customer. You should periodically run the probabilistic attribution model to update the conversion probability based on the latest customer touch points and the impact they had on the entire sales portfolio.

IMPROVING CONVERSION FOR YOUR OPPORTUNITIES

On top of calculating the current conversion probability, we have also implemented a recommendation engine that will try to maximize the conversion probability for the current opportunity.

This is done by finding out which campaign types or lead sources should be used in the next interaction with the customer.

After running the probabilistic attribution model, navigate to one of your open opportunities. You will see a section called **Improve Conversion**. In the Lightning experience, this information is presented as a custom tab, and in Classic, as part of a layout section.

The **Improve Conversion** section or tab contains suggestions to improve the current opportunity conversion. Here's an example of a formulation.

▼ Improve Conversion

Step 1: You can increase the conversion probability for this opportunity to 46.45% by using a Campaign with Campaign Type = Webinar + a Contact with Lead Source = Other.

Step 2: You can increase the conversion probability for this opportunity to 78.30% by using a Campaign with Campaign Type = Webinar + a Contact with Lead Source = Phone Inquiry.

FIGURE 6: SUGGESTIONS TO IMPROVE CONVERSION

What this means is that you should target the potential customer with a **Webinar**, focusing on the contacts that have **Other** as a Lead Source.

The recommendation engine generates up to three suggestions for each opportunity, that should be followed in sequence (hence the Step 1, 2, 3 markers). However, after each interaction is performed, the state of your entire data set will change, so it's best to rerun the probabilistic model in order to recalculate the weights and adjust the predictions.

COST CALCULATION FOR ACTIVITIES, LEADS AND CAMPAIGNS

Astapor Marketing Attribution allows you to calculate costs for your leads, tasks and campaigns more accurately. To achieve this, you need to use our custom cost fields to register the costs associated with your activities.

USER HOURLY RATE

On the **User** record, your system administrator will make the field **Hourly Rate** available for selected profiles. Populate this field with the hourly cost of your sales representatives to get a more accurate view of the cost incurred by their activities.

TASK AND EVENT COSTS

On the **Task** and **Event** records, you will have access to the fields **Duration**, **Overhead** and **Total Cost**.

- Use **Duration** to record the activity duration in minutes
- Use **Overhead** to record a fixed cost associated with the activity
- **Total Cost** will reflect both fixed and variable costs, and it will be calculated as
Total Cost = Duration x User Hourly Rate / 60 + Overhead.

Note: The **Total Cost** field should be set as read-only on the page layout, because any data the user will enter in it will be overwritten by the rollup process. Use the **Overhead** field instead to enter any pre-existent cost associated with the task or event.

The activity total cost will be calculated as part of the attribution process.

You can also use the custom field **Campaign** to associate the activity to a campaign, when the activity belongs to a **Lead** record. We added this field to circumvent the Salesforce limitation for lead activities. A process will then move the value in this field to the **Related To** field.

For activities related to a **Contact**, you just need to use the standard **Related To** field.

Having tasks and events related to a **Campaign** allows the activity cost rollup to the campaign for a more accurate measure of the campaign cost.

LEAD COST

The **Lead** record also contains a **Total Cost** field, that rolls up the cost of all activities performed on the lead.

To calculate the cost for a specific lead on the spot, use the **Calculate Lead Cost** action that will be made available on the **Lead** layout. Otherwise, all lead costs will be calculated as part of the attribution process.

Note: The **Total Cost** field should be set as read-only on the page layout, because any data the user will enter in it will be overwritten by the rollup process.

CAMPAIGN COST

Similar to leads, campaigns also include a custom **Total Cost** field, that sums up the total cost of all activities associated with the campaign.

If you have manually added a value in the **Actual Cost in Campaign** field, it will be added to the total cost as a fixed cost (overhead).

Note: The **Total Cost** field should be set as read-only on the page layout, because any data the user will enter in it will be overwritten by the rollup process. Use the standard field **Actual Cost** instead to register any overhead for a campaign.

All campaign costs are calculated as part of the attribution process.

SCHEDULING THE ATTRIBUTION PROCESS

The Astapor Marketing Attribution package includes the schedulable apex classes **ScheduleCostCalculation**, **ScheduleTrainProbabilisticModel**, **ScheduleCalculateWeights**, **ScheduleConversionProbCalc** and **ScheduleAttributionProcessing**.

The attribution wizard will automatically schedule these classes in the correct order to ensure data integrity. You can reschedule them at your convenience, with the condition that the processing order and time intervals should be the same as when scheduled by the wizard.

PERFORMANCE CONSIDERATIONS

Astapor Marketing Attribution includes data intensive processes that may put a strain on the Salesforce governor limits.

If you experience batch job failures due to governor limits, use the **Performance Setting** custom setting to adjust the **Batch Size** and **Number of records** fetched per processed opportunity. The default value for the batch size is 10 records at a time, and the default number of records is 100 per opportunity (an average of 100 campaigns, tasks or events processed for each opportunity). The smaller the batch size, the longer it will take to process your data.

Batch size and **Number of records** are combined to limit the amount of data fetched in an execution cycle. For example, a **batch size** of 10 with a **number of records** of 100 means that we can fetch maximum $10 \times 100 = 1000$ tasks, events or campaigns at a time. The maximum number of records per cycle is, however, hard capped at 3000 per type of record (task, event or campaign). So, if you set **batch size** to 50 and **number of records** to 100, we will only process 3000 and not 5000 records.

LIMITS

When processing large databases with a high number of opportunities and tasks, we apply several hard limits that cannot be adjusted. That is to avoid processing failures and timeouts caused by reaching Salesforce governor limits.

In the current version of Astapor Marketing Attribution:

- Attribution entries are generated for the last modified 1000 opportunities created in the last year.
- Prediction entries are generated for the last modified 1000 opportunities updated in the last 6 months.
- The probabilistic model is trained on a sample of 100 closed won and 100 closed lost opportunities created in the last year, with the highest opportunity amounts.
- Only opportunities carrying an amount are processed.
- Lead cost is updated for not closed leads edited in the last year, up to a limit of 50000.
- Campaign cost is updated for active campaigns edited in the last year.

These limits might be increased in the future versions, as we develop new ways of mitigating the Salesforce governor limits.