



Identity Resolution (continued)

Insights





Golden Record vs Unified Profile



What is a Unified Profile?



Unified Profile - Maintains all source data and lineage
Flexible Model - Resolve identities to link & stitch data together

Did You Know
Unified ID is NOT
meant to be used a
Golden Record ID

All Data Points associated with the Individual and complete Lineage is retained within Data Cloud

All Metrics and all behaviour available at all times (combined or independently)

Records Id	Data Source	FIRST NAME	LAST NAME	EMAIL	Phone	Metrics
Lead-Id-001	Sales Cloud	Rebecca	Williams	becca2000@yahoo.com	(781) 811-2135	Interest in Product-A
Order-Id-001 (logged-in)	Brand-1 Store	Rebecca	Williams	becca2000@yahoo.com	(181) 481-1135	400 Total Spent
Order-Id-002 (guest chk)	Brand-2 Store	Rebecca	Williams	rwilliam@gmail.com	(781) 811-2135	200 Total Spent
Subscriber-Id-0005	Brand-1 MC	Becca		rwilliam@gmail.com		5 Clicks, 2 Opens
Unified Id 91123-1231		Rebecca	Williams	rwilliam@gmail.com, becca2000@yahoo.com	(781) 811-2135, (181) 481-1135	Interest in Product-A, 600 Total Spent, 5 Clicks, 2 Opens

What is Golden Record?



Strongly desired for simplicity, strongly limited due to simplicity

The strong desire to have a single-id for the Customer, with the 'best' email and the 'best' phone to reach out to.

Real people and problems are not that simple



Records Id	Data Source	FIRST NAME	LAST NAME	EMAIL	Phone	Metrics
Lead-Id-001	Sales Cloud	Rebecca	Williams	becca2000@yahoo.com	(781) 811-2135	Interest in Product-A
Order-Id-001 (logged-in)	Brand-1 Store	Rebecca	Williams	becca2000@yahoo.com	(181) 481-1135	400 Total Spent
Order-Id-002 (guest chk)	Brand-2 Store	Rebecca	Williams	rwilliam@gmail.com	(781) 811-2135	200 Total Spent
Subscriber-Id -0005	Brand-1 MC	Becca		rwilliam@gmail.com		5 Clicks, 2 Opens
Gold-Id-500	Brand-1 MC	Becca	Williams	rwilliam@gmail.com	(781) 811-2135	Interest in Product-A, 400 Spent
Gold-Id-600	Brand-1 MC	Becca	Williams	becca2000@yahoo.co m	(781) 811-2135	200 Spent, 5 Clicks, 2 Open

What is Golden Record?



Strongly desired for simplicity, strongly limited due to simplicity

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Lead-Id-001	Sales Cloud	Rebecca	Williams	becca2000@yahoo.com	(781) 811-2135	Interest in Product-A
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Subscriber-Id -0005	Brand-1 MC	Becca		rwilliam@gmail.com		5 Clicks, 2 Opens
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Gold-Id-600	Brand-1 MC	Becca	Williams	becca2000@yahoo.co m	(781) 811-2135	400 Spent, 5 Interest in Product-A,

- 1 Too many 'Golden Records' can be created if unification is done on single Contact Points (Emails or Phone)
- 2 Lack of history tracking and risk of attributes mismatch between records.
- 3 Complete 'view' of the Customer may not be achievable

What is Unified Profile?



Data Cloud creates a Unified Profile addressing the 'Golden Record' limitations

1 All Contact Points associated with the Individual and Complete Lineage is retained within Data Cloud

2 All Metrics and all behaviour associated with either Email combined and independently available

3 Track Consent for all touch-points of the user and leverage depending on channel

Records Id	Data Source	FIRST NAME	LAST NAME	EMAIL	Phone	Metrics
Lead-Id-001	Sales Cloud	Rebecca	Williams	becca2000@yahoo.com	(781) 811-2135	Interest in Product-A
Order-Id-001 (logged-in)	Brand-1 Store	Rebecca	Williams	becca2000@yahoo.com	(181) 481-1135	400 Total Spent
Order-Id-002 (guest chk)	Brand-2 Store	Rebecca	Williams	rwilliam@gmail.com	(781) 811-2135	200 Total Spent
Subscriber-Id -0005	Brand-1 MC	Becca		rwilliam@gmail.com		5 Clicks, 2 Opens
Unified Id 91123-1231		Rebecca	Williams	rwilliam@gmail.com , becca2000@yahoo.com	(781) 811-2135, (181) 481-1135	Interest in Product-A, 600 Total Spent, 5 Clicks, 2 Opens

When does Data Cloud create a ‘Golden Record’?



During Activation, with Customer provided Context and selection criteria

Records Id	Data Source	FIRST NAME	LAST NAME	EMAIL	Phone	Metrics
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[1] All Source Individuals's data and lineage is retained in the Data Model Objects (DMOs) in CDP

Order-Id-001 (logged-in)	Brand-1 Store	Rebecca	Williams	becca2000@yahoo.com	(181) 481-1135	400 Total Spent
Order-Id-002 (guest chk)	Brand-2 Store	Rebecca	Williams	rwilliam@gmail.com	(781) 811-2135	200 Total Spent

[2] Unified Profile - Contains all unique Contact Points for the linked Individuals. Connect via Unified Link DMOs to source data

Order-Id-002 (guest chk)	Brand-2 Store	Rebecca	Williams	rwilliam@gmail.com	(781) 811-2135	200 Total Spent
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[3] Select appropriate Subscriber-Id and Contact Point association

Subscriber's ID BU-1	Brand-1-BU	Rebecca	Williams	becca2000@yahoo.com	(181) 481-1135
Subscriber's ID BU-2	Brand-2-BU	Rebecca	Williams	rwilliam@gmail.com	(781) 811-2135



The Big Picture: Implementation Themes

Related to the components of Data Cloud



Provisioning

Provision and set up Data Cloud instance, users and permissions, configure integrations to source/target systems, etc.

Data Ingestion

Set up **data streams** bringing data into Data Cloud from various supported sources and applying necessary transformations

Data Mapping (Harmonization)

Map ingested data into the Customer 360 data model, making it available for unification, segmentation and activation

Identity Resolution (Unification)

Configure rules for individual matching across sources of data, establish preference for unified attributes reconciliation rules

Data Preparation

Insights & Analytics

Derive insights from your mapped data, explore and visualize it in the analytical and business intelligence tools.

Segmentation

Turn mapped data into useful audiences or segments, to understand, target or analyze customers at the unified level.

Activation

Materialize created segments and publish to relevant activation/engagement platforms. Trigger relevant business processes based on data points identified within Data Cloud. Consume and expose data in relevant user experiences within other systems .

Data Consumption



Identity Resolution : Glossary



Identity Resolution

The process of identity management by means of matching and reconciling data about people into a comprehensive view called unified profiles. Identity resolution is powered by rulesets and creates unified and link objects.

Identity Resolution Rulesets

Rulesets are a combination of match and reconciliation rules used to combine source records to resolve identity and create unified profiles.

Reconciliation Rules

User-defined rules that determine which source the system uses when creating unified individual profiles. Options include: last updated, most frequent, or source priority.

Unified Profile

A profile that contains customer data reconciled across multiple sources as a single record using identity resolution rulesets.

Party

A term that can refer to a subject area or a field in Data Cloud. Party reflects a unique identifier, like a driver's license number or a contact ID in Salesforce.

Party Identification DMO

The Party Identification DMO is a Data Cloud data model object for the ways to identify a party, such as a driver's license or a birth certificate.

Individual ID

This enterprise-wide unique identifier is utilized as the Identification Number in Identity Resolution, such as the CRM Contact ID or MDM ID.





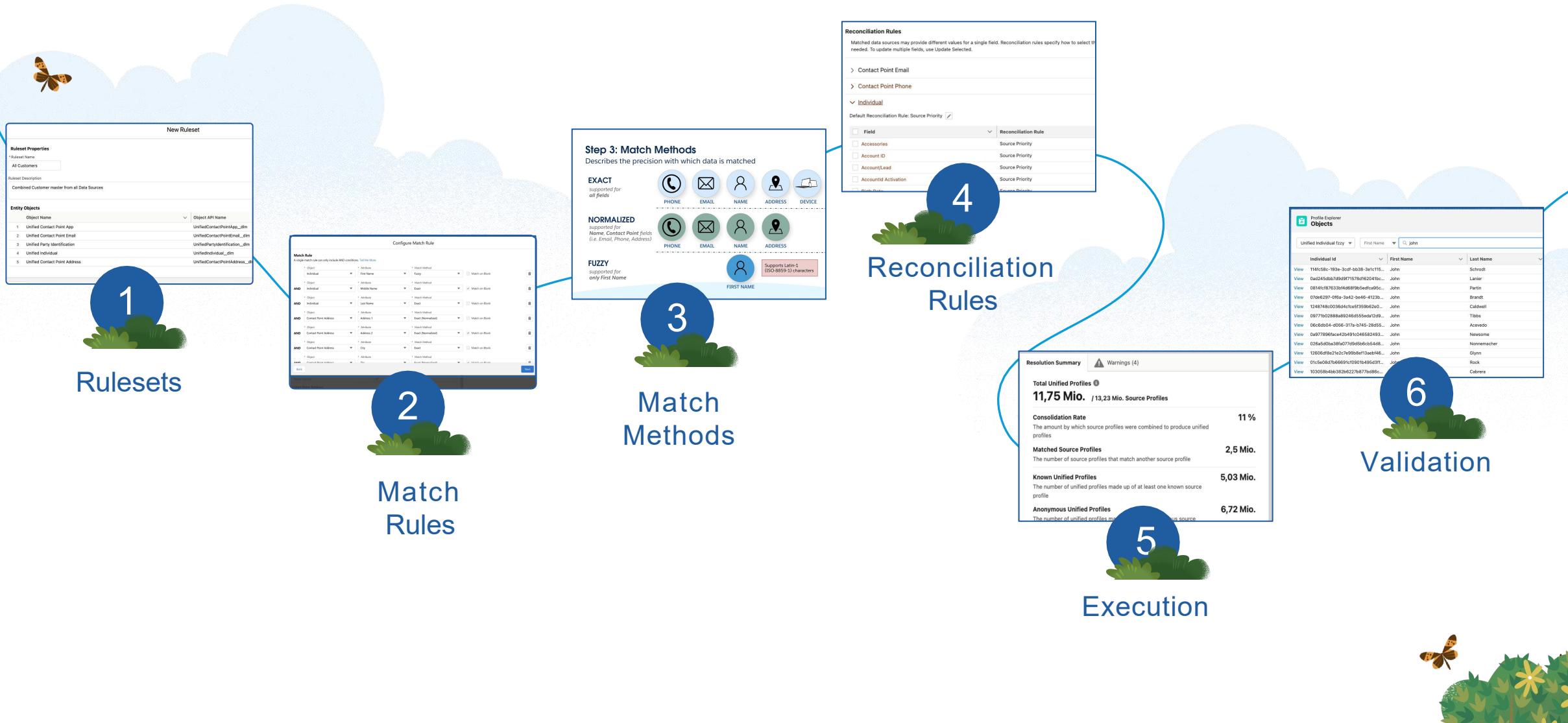
Behind the Scenes



Steps to get a Unified Profile



Let's understand Identity Resolution Step By Step



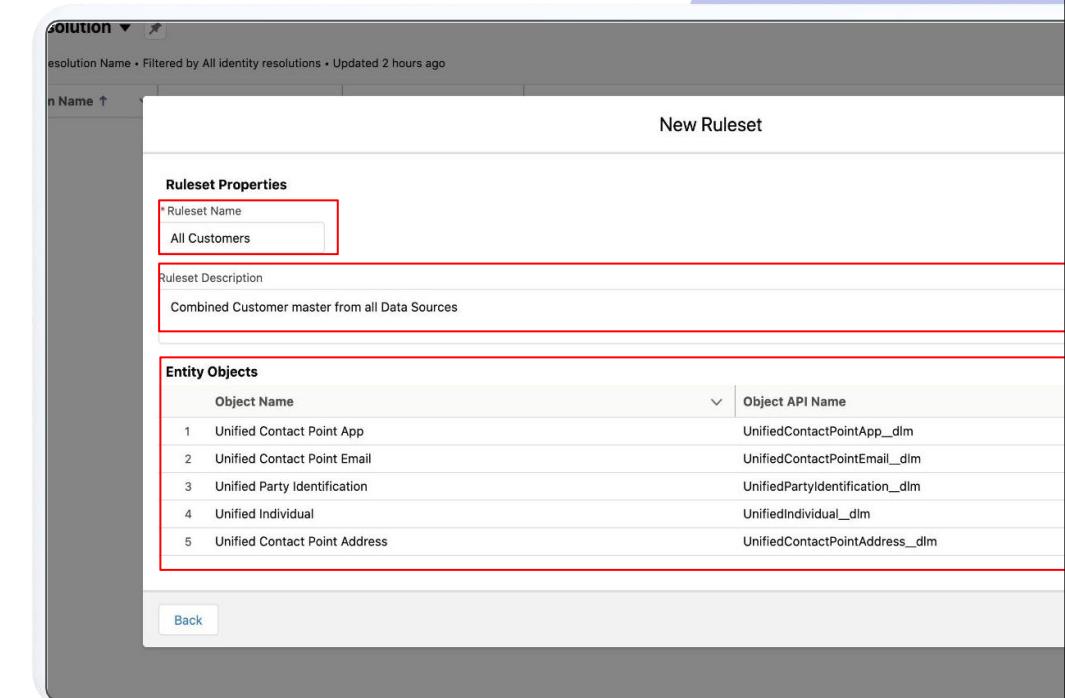
Step 1. Rulesets

Rulesets allow you to have multiple sets of unified profile sets in Data Cloud.

Ruleset Name to differentiate rulesets in the main user experience

Ruleset Description to captures the specific use or purpose of creating the Identity Resolution

Entity Object is the list of what will be created as part of the Identity Process. The DMO names will differ by Identity Rulesets (via the **4 letter Ruleset ID**)



Step 2. Configure Match Rule

Leverage standard and custom fields mapped to the data model



- Composed of multiple **Match Criterias**
- Each criteria has a **Match Method**
- **Key Points:**
 - As long as one Match Rule is TRUE, two Individual records would be linked
 - You have option to modify and extend each rule
 - Add more fields for stricter match definition and keeping unique individuals separate
 - Remove fields or loosen match definition to increase match rate

A screenshot of the Salesforce Data Cloud interface showing the 'Configure Match Rule' screen. The page title is 'Match Rule' with a sub-instruction 'A single match rule can only include AND conditions. Tell Me More'. The configuration area contains several rows of match criteria, each consisting of an 'Object' dropdown, an 'Attribute' dropdown, and a 'Match Method' dropdown. The first row uses 'Individual' for both object and attribute, with 'Fuzzy' as the match method. Subsequent rows use 'Contact Point Address' for the object and either 'Middle Name', 'Last Name', 'Address 1', 'Address 2', 'City', or 'Zip' for the attribute, with 'Exact' as the match method for all. A red box highlights the second row of the configuration table. At the bottom of the configuration area are 'Back' and 'Next' buttons, along with 'Yearly Income' and 'Last Updated' filters. The background shows a blurred view of the Data Cloud interface with various tabs like 'Data Model' and 'Identity Resolution'.



Match Criteria



A match rule is composed of multiple Match criteria

* Object Individual	* Attribute First Name	* Match Method Fuzzy	<input type="checkbox"/> Match on Blank
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Any mapped **object** from the Individual Data Model can be leveraged as part of the building the Match criteria

Any mapped **Attribute** (including Custom fields) from the Individual Data Model can be leveraged as part of the building the Match criteria.

Exact - supported for all fields

Exact Normalized - supported for Email, Phone, Address, Name fields

Fuzzy - supported for First Name

Any non-required field from the Individual Data Model can be set to **Match on Blank**

Step 3: Match Methods

Describes the precision with which data is matched



EXACT

*supported for
all fields*



PHONE



EMAIL



NAME



ADDRESS



DEVICE



PARTY ID

NORMALIZED

*supported for
Name, Contact Point fields
(i.e. Email, Phone, Address)*



PHONE



EMAIL



NAME



ADDRESS

FUZZY

*supported for
only First Name*



FIRST NAME

Supports Latin-1
(ISO-8859-1) characters

Match: Fuzzy First Name



Supports Latin-1 (ISO-8859-1) characters.

Individual (Input Data)			
Id	First Name	Last Name	Email
1000-10-0001	Rebecca	Williams	rwilliams@gmail.com
1000-10-0002	Becca	Williams	rwilliams@gmail.com
1000-10-0003	Bec	Williams	rwilliams@gmail.com
1000-10-0004	Rebeca	Williams	rwilliams@gmail.com
1000-10-0005	Bec	Williams	rwilliams@gmail.com
1000-10-0006	Rebecca	Williams	rwilliams@gmail.com

Input Data

- Each record represents a different Individual
- Each record also shared the same email address
["rwilliams@gmail.com"](mailto:rwilliams@gmail.com)

Configured Match Rule

- Fuzzy.First-Name + Exact.Last-Name + Exact.Email

Configured Reconciliation Rule

- All Fields set with "**Most Frequent**"

Human Review
(On-Going)

Domain Specific
Training
(First Names)

AI Foundation
(BERT Language
Model)

10k Synonyms and closely occurring name pairs were added to hard training set, including international names.

Salesforce Research Team generated and scored a **20M unique combinations** of First Name pairs for international datasets.

Bidirectional Encoder Representations from Transformers (BERT)

It also support precisions now to change sensitivity
Low, Medium, High

Match: Exact Normalized Email



Contact Point Email (Input Data)		
Id	Party (FK to Individual)	Email Address
1000-10-0001	IAN0-20-0001	rwilliams@gmail.com
1000-10-0002	IAN0-20-0002	rwilliams@gmail.com
1000-10-0003	IAN0-20-0003	rwilliams@gmail.com
1000-10-0004	IAN0-20-0004	"rwilliams@gmail.com"
1000-10-0005	IAN0-20-0005	<rwilliams@gmail.com>
1000-10-0006	IAN0-20-0006	"rwilliams"@gmail.com

Input Data

- All data belongs to "Rebecca Williams" (matching Individual fields)
- Each Contact Point Address belongs to different Individual (Party)
- Email fields are the only Contact Points

Configured Match Rule

- Exact.First-Name + Exact.Last-Name + Normalized.Email-Address

Exact Normalized Email syntax is achieved via:

`javax.mail.internet.InternetAddress`

Recommendation

Extend the Match Rule to include more Individual fields, Full Contact Points, Party Identifiers and/or Custom fields

Match: Exact Normalized Address



Contact Point Address (Input Data)				
Id	Party	Address 1	City	Country
1000-10-0001	2000-20-0001	500 North Cabrillo Ave	NY	USA
1000-10-0002	2000-20-0002	500 North Cabrillo Ave	NY	US
1000-10-0003	2000-20-0003	500 N Cabrillo Ave	NY	U.S.A
1000-10-0004	2000-20-0004	500 Cabrillo Ave North	NY	USA
1000-10-0005	2000-20-0005	500 North Cabrillo Avenue	NY	USA
1000-10-0006	2000-20-0006	500 Cabrillo Ave N	NYC	USA

Addition Configurations Details for 6 different individuals

- All data belongs to “Rebecca Williams” (matching Individual fields)
- Each Contact Point Address belongs to different Individual (Party)
- Address fields are the only shared Contact Points

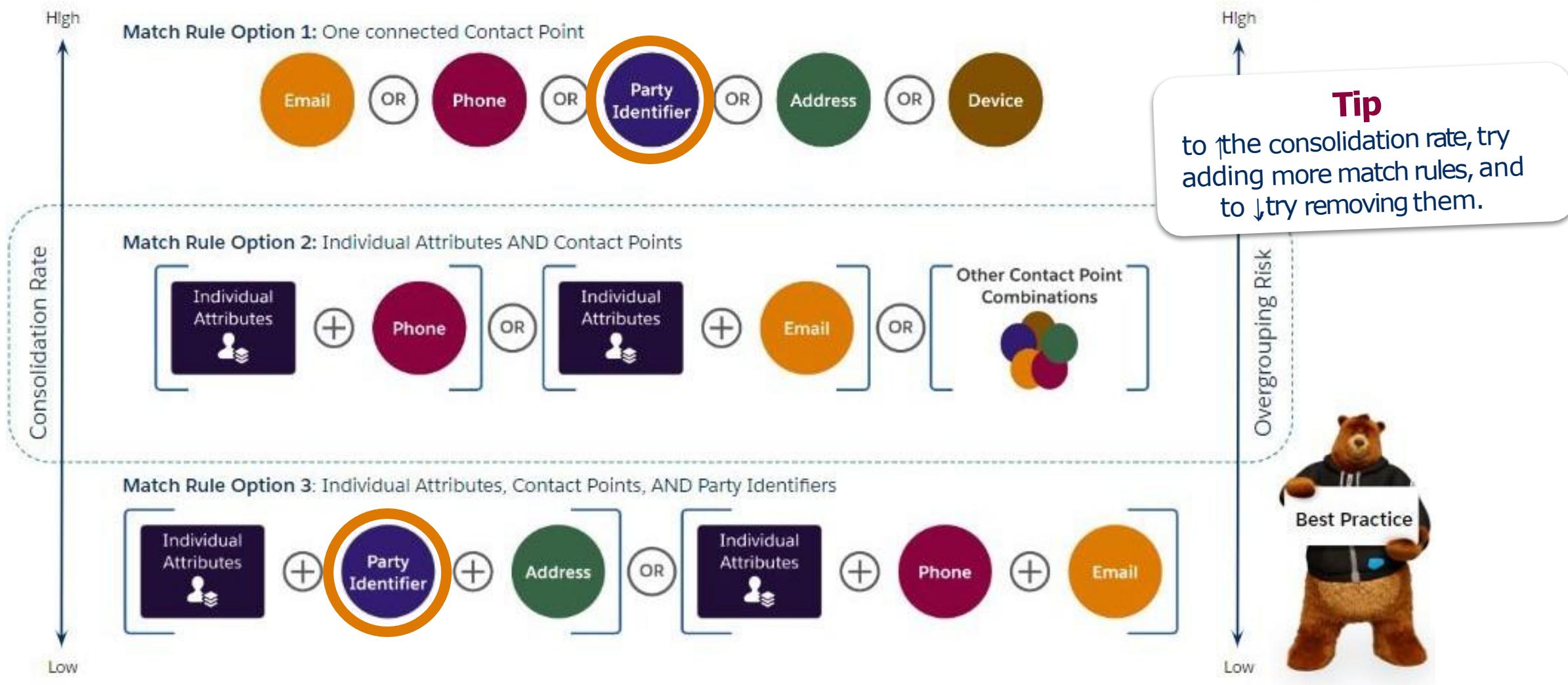
Configured Rule

- Exact-Norm.Address1 + Exact.City + Exact-Norm.Country

- **Address.Address1** matcher operates on common spelling, transposition, address-token's errors
- **Address.State Normalizer** supported for 11 Countries - Australia, Canada, France, Germany, Great Britain, Italy, Netherlands, Norway, Singapore, Spain, Turkey, United States
- **Address.Country Normalizer** supported for all Countries
- **Address.PostalCode** and **Address.City** fields only support Exact matches at this stage

That's why last records was not recognized as match

Match Rule Balancing

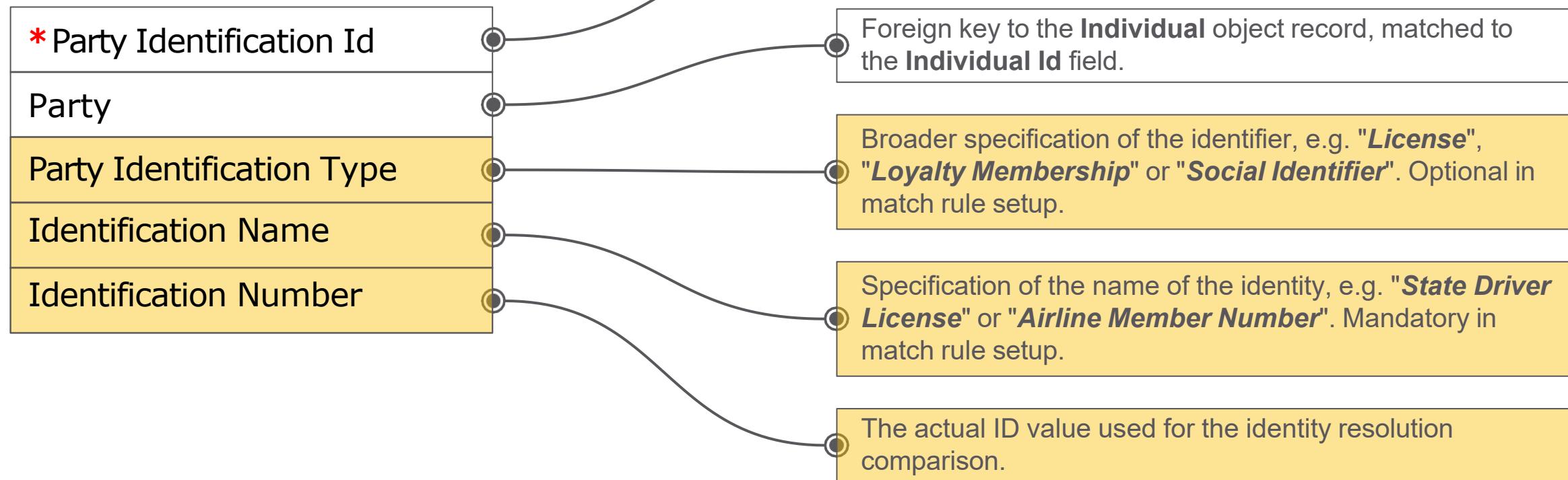


Party Identifier Matching

Let's explore this in more detail



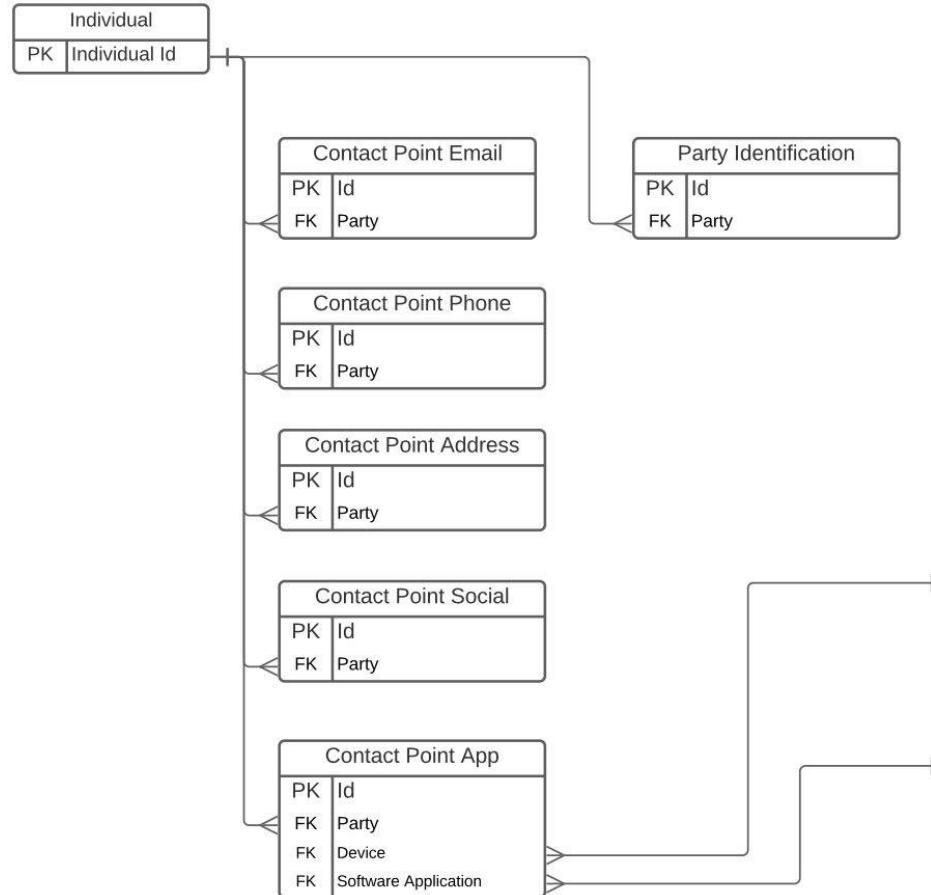
Party Identification



Required Mapping for Identity Resolution Scenarios



Read this [documentation](#) for more information



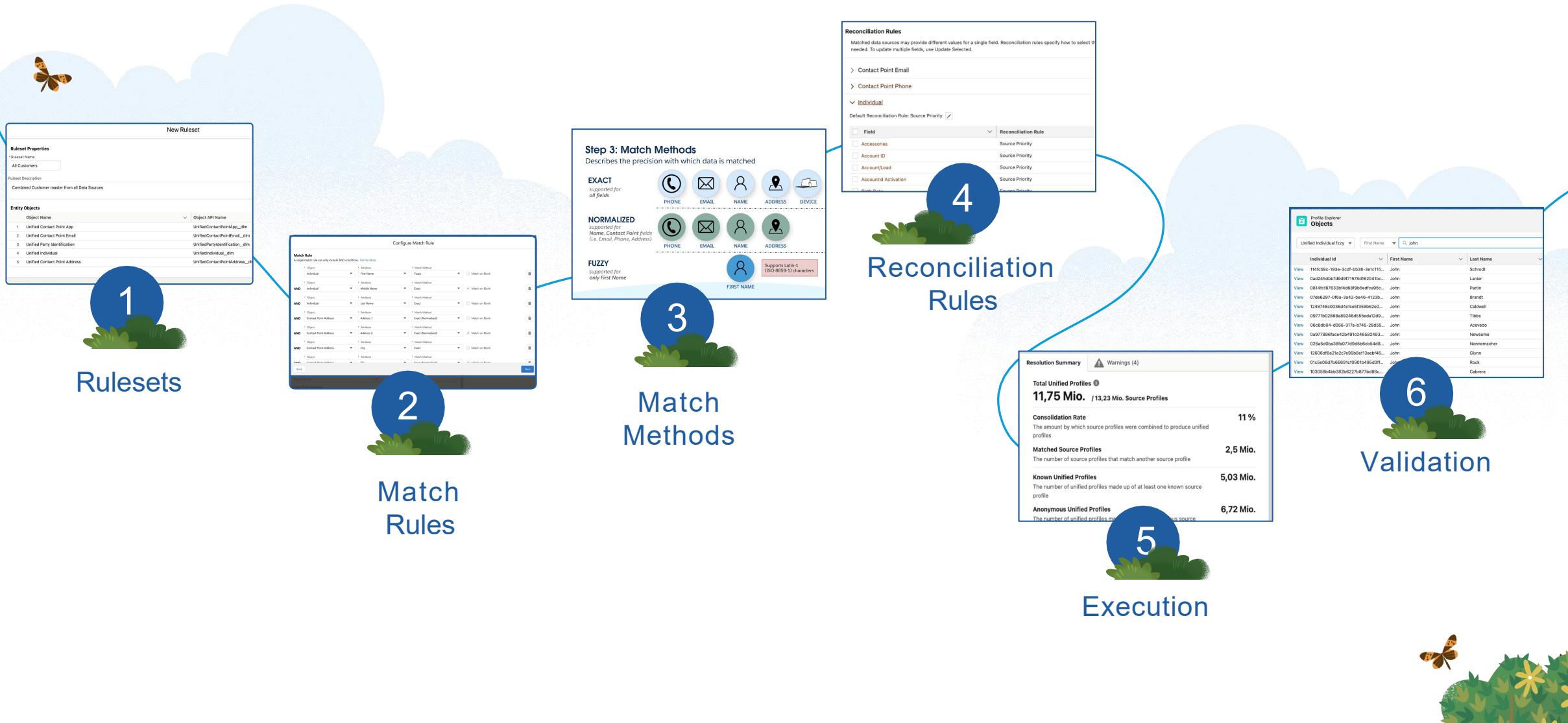
ENTITY	FIELDS	RELATIONSHIP
Individual	ID	
Contact Point Email	ContactPointId PartyId EmailAddress	ContactPointEmail (PartyId) (Many) --> Individual (Id) (One)
Contact Point Phone	ContactPointId (key) PartyId TelephoneNumber PhoneCountryCode FormattedE164PhoneNumber	ContactPointPhone (PartyId) (Many) --> Individual (Id) (One)
Contact Point Address	ContactPointId (key) PartyId Street City StateName Country	ContactPointAddress (PartyId) (Many) --> Individual (Id) (One)

**Required Data
Mappings**

Steps to get a Unified Profile



Let's understand Identity Resolution Step By Step



Step 4: Reconciliation Rules

Specifies how to select the best value to save to a unified field that can't have multiple values

Most Frequent

From matched records

Last Updated

Data streams should have update-ts mapped

Source Sequence

Ranked order Data Source's value preference

The screenshot shows the Salesforce Data Cloud interface under the 'Identity Resolution' tab for a profile named 'Main_Unification'. The main area displays 'Match Rules' and 'Reconciliation Rules'. A red box highlights the 'Reconciliation Rules' section, which contains a table for defining how to select the best value for various fields. The table includes columns for 'Field', 'Reconciliation Rule', and 'Using Default?'. All rows show 'Source Priority' as the reconciliation rule and a checkmark in the 'Using Default?' column. The right sidebar provides summary statistics: 'Total Unified Profiles' at 11,75 Mio., 'Consolidation Rate' (amount by which source profiles were combined), 'Matched Source Profiles' (number of source profiles that match another), 'Known Unified Profiles' (number of unified profiles made up of at least one profile), and 'Anonymous Unified Profiles' (number of unified profiles made up of only anonymous profiles). There are also 'Post' and 'Poll' buttons in the sidebar.

Field	Reconciliation Rule	Using Default?
Accessories	Source Priority	✓
Account ID	Source Priority	✓
Account/Lead	Source Priority	✓
AccountID Activation	Source Priority	✓
Birth Date	Source Priority	✓
CFR Customer	Source Priority	✓

Step 5: Execution

Review Resolution Summary and Processing History



Salesforce Data Cloud interface showing the Identity Resolution process for "Main_Unification".

Identity Resolution Main_Unification

Data Space: default, Primary Data Model Object: Individual, Ruleset ID: 0001, Ruleset Status: Published, Last Job Status: Succeeded, Last Job Completed: 02.10.2023 16:56.

Processing History

Job ID	Job Status	Job Start Time	Job End Ti...	Source Pr...	Matched S...	Total Unifi...	Anonymous...	Known Uni...	Cons
1370f770-bc2b...	Succeeded	Mo., 02. Okt. 2023, 16:04	Mo., 02. Okt. 2...	13.232.901	2.498.048	11.751.642	6.718.328	5.033.314	11 %
b2aaedf8-07c3...	Succeeded	Mo., 02. Okt. 2023, 00:03	Mo., 02. Okt. 2...	13.215.667	2.495.573	11.736.075	6.704.558	5.031.517	11 %
9de44920-653...	Succeeded	So., 01. Okt. 2023, 08:04	So., 01. Okt. 20...	13.192.984	2.493.607	11.714.857	6.684.552	5.030.305	11 %
30f6bf29-7883...	Succeeded	Sa., 30. Sept. 2023, 16:04	Sa., 30. Sept. 2...	13.177.424	2.491.929	11.700.426	6.671.589	5.028.837	11 %
79315dc3-355...	Succeeded	Sa., 30. Sept. 2023, 00:04	Sa., 30. Sept. 2...	13.164.144	2.490.411	11.688.201	6.660.536	5.027.665	11 %
155af9b7-d915...	Succeeded	Fr., 29. Sept. 2023, 08:04	Fr., 29. Sept. 2...	13.142.805	2.488.137	11.668.494	6.642.419	5.026.075	11 %
e34d2037-518f...	Succeeded	Do., 28. Sept. 2023, 16:02	Do., 28. Sept. 2...	13.125.605	2.485.656	11.653.086	6.628.847	5.024.239	11 %
acd457df-35fd...	Succeeded	Do., 28. Sept. 2023, 00:02	Do., 28. Sept. 2...	13.108.780	2.483.819	11.637.568	6.614.822	5.022.746	11 %
c39b7d27-cddf...	Succeeded	Mi., 27. Sept. 2023, 08:02	Mi., 27. Sept. 2...	13.085.728	2.481.007	11.616.565	6.595.417	5.021.148	11 %
52f0de6c-1311...	Succeeded	Di., 26. Sept. 2023, 16:03	Di., 26. Sept. 2...	13.067.755	2.478.753	11.600.138	6.581.264	5.018.874	11 %
7ed0ce27-483...	Succeeded	Di., 26. Sept. 2023, 00:02	Di., 26. Sept. 2...	13.050.592	2.476.603	11.584.478	6.567.221	5.017.257	11 %
ef99a1b1-f282...	Succeeded	Mo., 25. Sept. 2023, 08:03	Mo., 25. Sept. ...	13.022.542	2.473.628	11.558.537	6.543.414	5.015.123	11 %
b6cb7785-bc9...	Succeeded	So., 24. Sept. 2023, 16:03	So., 24. Sept. 2...	13.002.378	2.470.748	11.540.403	6.527.882	5.012.521	11 %
be774262-84e...	Succeeded	So., 24. Sept. 2023, 00:04	So., 24. Sept. 2...	12.985.961	2.468.989	11.525.258	6.515.021	5.010.237	11 %
c26e7f7c-9da7...	Succeeded	Sa., 23. Sept. 2023, 08:04	Sa., 23. Sept. 2...	12.962.729	2.466.632	11.503.489	6.495.881	5.007.608	11 %
308c96fa-8f89...	Succeeded	Fr., 22. Sept. 2023, 16:04	Fr., 22. Sept. 2...	12.944.576	2.464.545	11.486.674	6.481.587	5.005.087	11 %

Resolution Summary

Total Unified Profiles: 11,75 Mio. / 13,23 Mio. Source Profiles

Consolidation Rate: 11 %

The amount by which source profiles were combined to produce unified profiles

Matched Source Profiles: 2,5 Mio.

The number of source profiles that match another source profile

Known Unified Profiles: 5,03 Mio.

The number of unified profiles made up of at least one known source profile

Anonymous Unified Profiles: 6,72 Mio.

The number of unified profiles made up of only anonymous source profiles

Post Poll Share an update... Share

Identity Resolution: Individuals → Unified Individual



Two Individuals

Object					
Data Model Object	▼	Individual	▼		
<input type="checkbox"/>	Individual Id	▼	First Name	▼	Last Name
<input type="checkbox"/>	SubKey_031	Jessie	Depuy		
<input type="checkbox"/>	A031	Jessie	Depuy		

Linked Together

Object			
Data Model Object	▼	Individual Identity Link	▼
<input type="checkbox"/>	Individual Id	▼	Unified Individual Id
<input type="checkbox"/>	SubKey_031	c070810b-73c5-3ee5-965a-a7ca7ef7ade3	
<input type="checkbox"/>	A031	c070810b-73c5-3ee5-965a-a7ca7ef7ade3	

= One Unified Individual



Object			Total Columns		
Data Model Object	▼	Unified Individual	▼	4	
<input type="checkbox"/>	Individual Id	▼	First Name	▼	Last Name
<input type="checkbox"/>	c070810b-73c5-3ee5-965a-a7ca7ef7ade3	Jessie	Depuy		

Step 6: Validation

User **Profile Explorer** to Look-Up Profiles by key attributes in Data Cloud



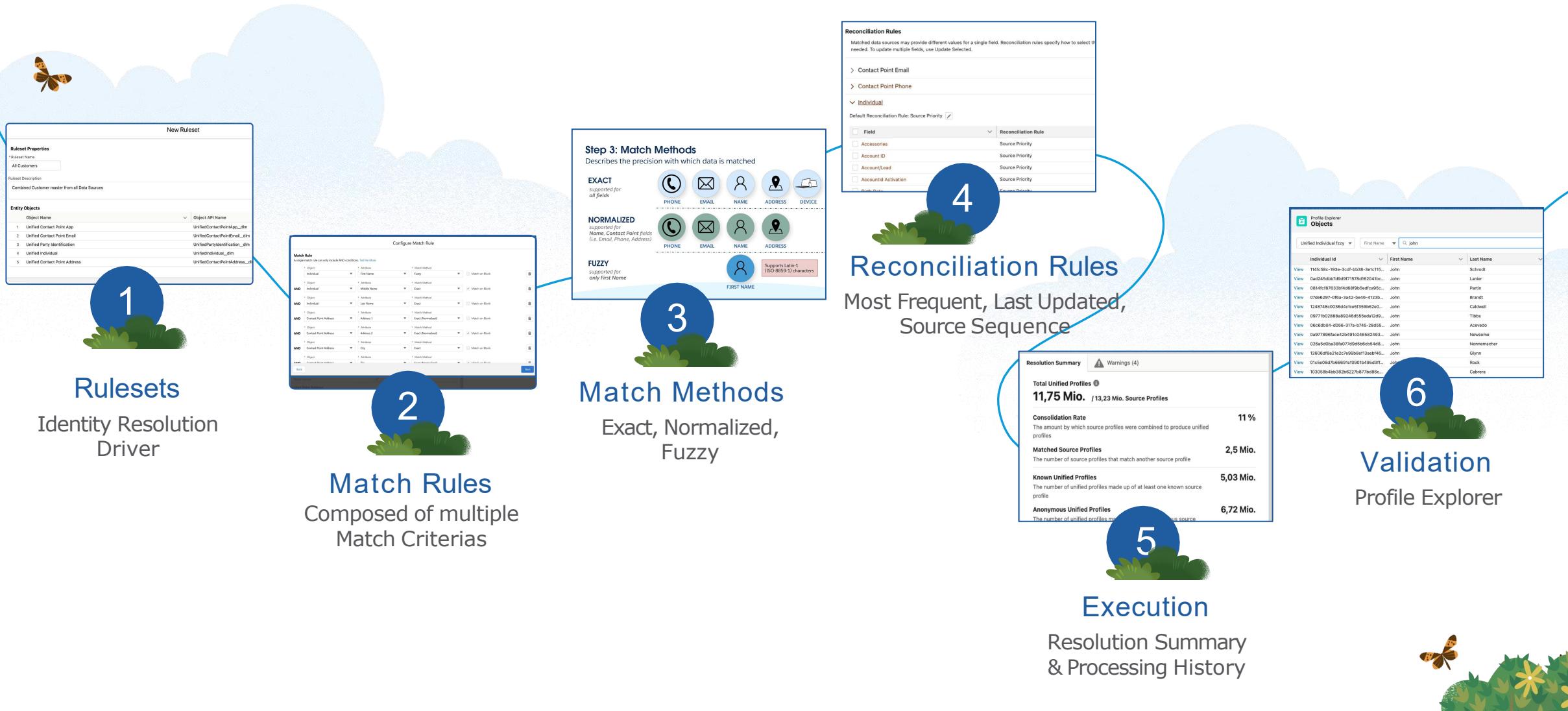
The screenshot shows the Salesforce Profile Explorer interface. At the top left is the "Profile Explorer Objects" button. To its right are two dropdown menus: "Unified Individual fuzzy" and "First Name". A search bar contains the value "john". On the far right is an "Edit Columns" button. The main area is a table with columns: Individual Id, First Name, Last Name, Birth Date, Preferred Channel, Primary Language, and Is Anonymous. The table lists 12 records, all of which have "First Name" set to "John". The rows are numbered from 1 to 12. A large orange box highlights the search bar and the table area. A blue box highlights the "Edit Columns" button. A blue circle with the number 1 points to the "Unified Individual fuzzy" dropdown. A blue circle with the number 2 points to the "First Name" dropdown. A blue circle with the number 3 points to the search bar. A blue circle with the number 4 points to the "Edit Columns" button. A blue circle with the number 5 points to the table area.

Individual Id	First Name	Last Name	Birth Date	Preferred Channel	Primary Language	Is Anonymous
View 114fc58c-193e-3cdf-bb38-3e1c11...	John	Schrodt	7/31/1953	Social	Chinese	0
View 0ad245dbb7d9d9f71578d162041bc...	John	Lanier	12/12/1995			0
View 0814fcf87633bf4d68f9b5edfca95c...	John	Partin	10/24/1993			0
View 07de6297-0f6a-3a42-be46-4123b...	John	Brandt	4/6/1992			0
View 1248748c0036d4cfce5f359b62e0...	John	Caldwell				0
View 09771b02888a89246d555eda12d9...	John	Tibbs	4/7/1973			0
View 06c6db04-d056-317a-b745-28d55...	John	Acevedo	8/18/1969			0
View 0a977896face42b491c046582493...	John	Newsome	11/21/1991			
View 026a5d0ba38fa077d9d5b6cb54d8...	John	Nonnemacher	1/23/1982			
View 12606df8e21e2c7e99b8ef13aebf46...	John	Glynn	10/29/1984			
View 01c5e08d7b66691cf0901b495d3ff...	John	Rock	4/26/1961			
View 103058b4bb382b6227b877bd86c...	John	Cabrera	9/26/1969			

- (1) Pick an Identity Resolution ruleset
- (2) Select key Profile attributes
- (3) Enter exact look-up value
- (4) Edit Columns to Display
- (5) View all Unified Records

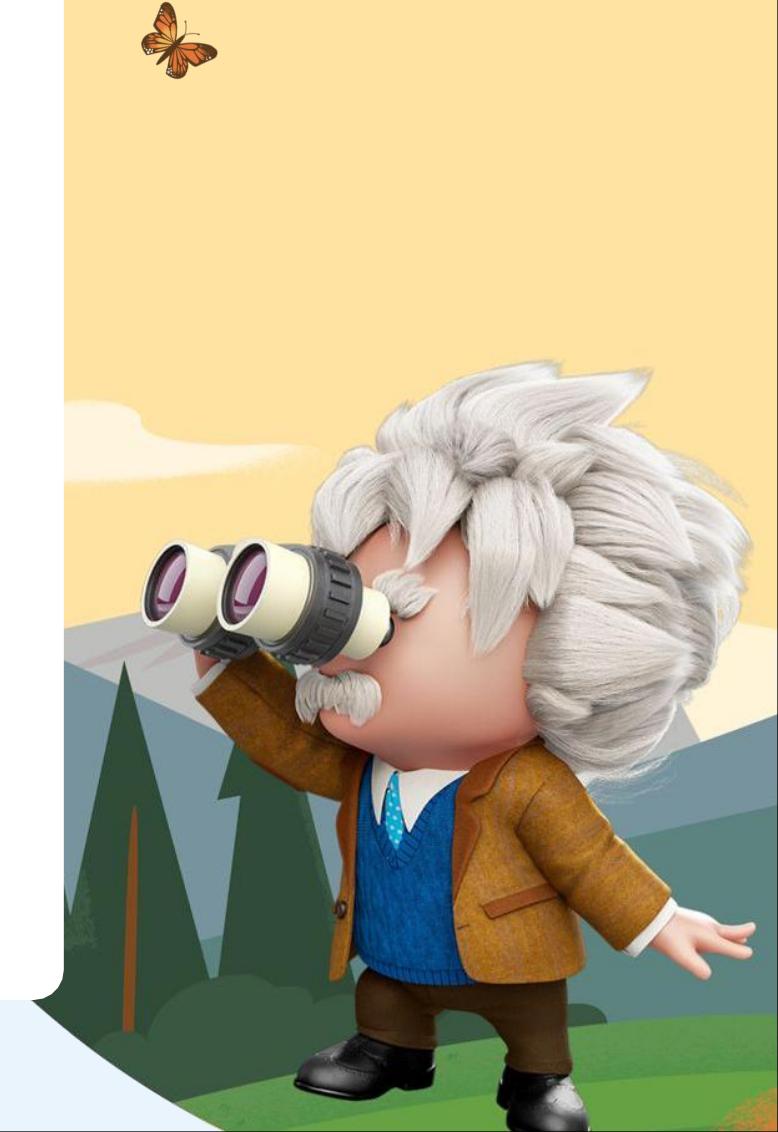
Steps to get a Unified Profile

Let's understand Identity Resolution Step By Step



Some Applications of a Unified Profile

- Calculated Insights on Unified Individuals
- Segment & Activate on Unified Individuals
- Expose Unified Data to CRM using Lightning
- Profile Explorer in Data Cloud
- Use them in Prompt Builder for Gen AI Use-cases





Important Consideration



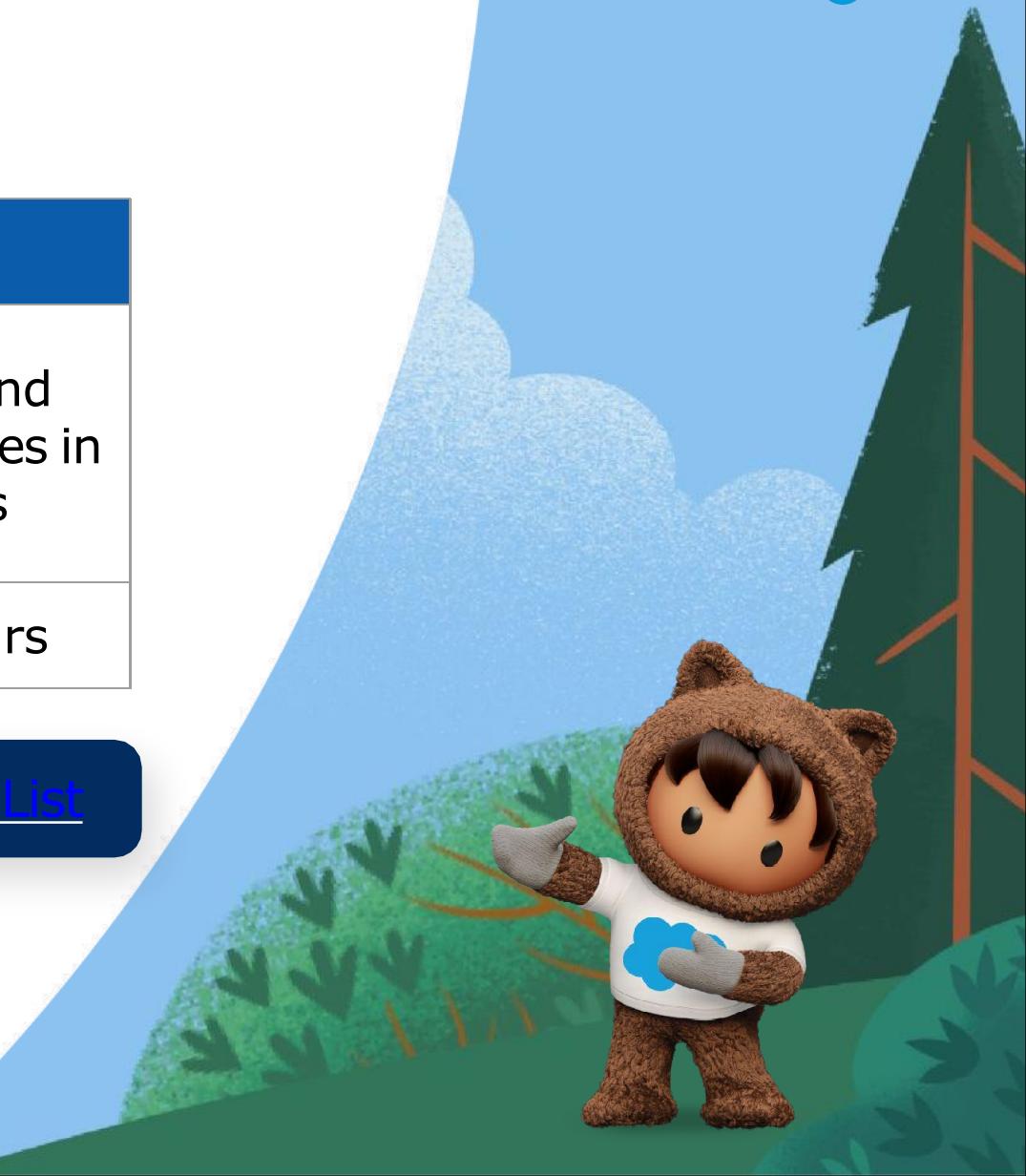
Unification Timings

Identity Resolution Guidelines and Limits



Method	Refresh Rate	Latency
Create or Update Rules (either match or reconciliation)	On Demand	Instantly and Max four times in 24 hours
Scheduled	Batch	Every 24 Hours

[Limits and Guidelines List](#)



Identity Resolution Considerations



Fuzzy and Normalized Matching Limitations → Only available for specific attributes

Identity Resolution Execution time:

- IR job runs first saved and upto 4 times in 24 hours;
- Initiated when the system finds mapped data streams with some updates.

A Unified Profile IS NOT a Golden Record

- Unified Id created and managed by Data Cloud → is not persistent
- Should not be used as key in external systems
- Reconciliation does help with orchestrating any changes back to source systems

Data quality of source systems should be considered:

- Data Cloud does not have built in exclusion-list for commonly submitted fake data "no@email.com", "555-555-5555", etc so these would create a valid match.



Identity Resolution Best Practices



Unification Strategy

- Evaluate enterprise identity strategy, inspect and collate an inventory of all data sources.
- Design relevant unification strategies to incorporate all necessary data sources using best fit approach.

Be Intentional With Match Rules

- Matching on Contact Point Alone (email, phone) is **NOT** a recommended practice
- Consider the impact of shared email, phone etc for unification

Review business goals for unification

- Consider best and worst case scenario
- What would happen if you inappropriately unified multiple individuals

Tip

Use **Party Identification** to match using external and 3rd party identifiers (License, Device ID, Loyalty No)

Match Rule configuration - No Optimal Consolidation Rate

- Varies by industry, customer, business scenario
- **More permissive** the match criteria, the **higher the consolidation rate**;
- **More restrictive** the match criteria, the **less consolidation** - and the more closely related to original source records

Multiple Identity Graphs

- Use different Identity Resolution Rulesets to compare how changing match criteria changes the consolidation rate

Let's See Data Cloud in Action



**DEMO
TIME|**





Insights



The Big Picture: Implementation Themes

Related to the components of Data Cloud



Provisioning

Provision and set up Data Cloud instance, users and permissions, configure integrations to source/target systems, etc.

Data Ingestion

Set up **data streams** bringing data into Data Cloud from various supported sources and applying necessary transformations

Data Mapping (Harmonization)

Map ingested data into the Customer 360 data model, making it available for unification, segmentation and activation

Identity Resolution (Unification)

Configure rules for individual matching across sources of data, establish preference for unified attributes reconciliation rules

Data Preparation

Insights & Analytics

Derive insights from your mapped data, explore and visualize it in the analytical and business intelligence tools.

Segmentation

Turn mapped data into useful audiences or segments, to understand, target or analyze customers at the unified level.

Activation

Materialize created segments and publish to relevant activation/engagement platforms. Trigger relevant business processes based on data points identified within Data Cloud. Consume and expose data in relevant user experiences within other systems .

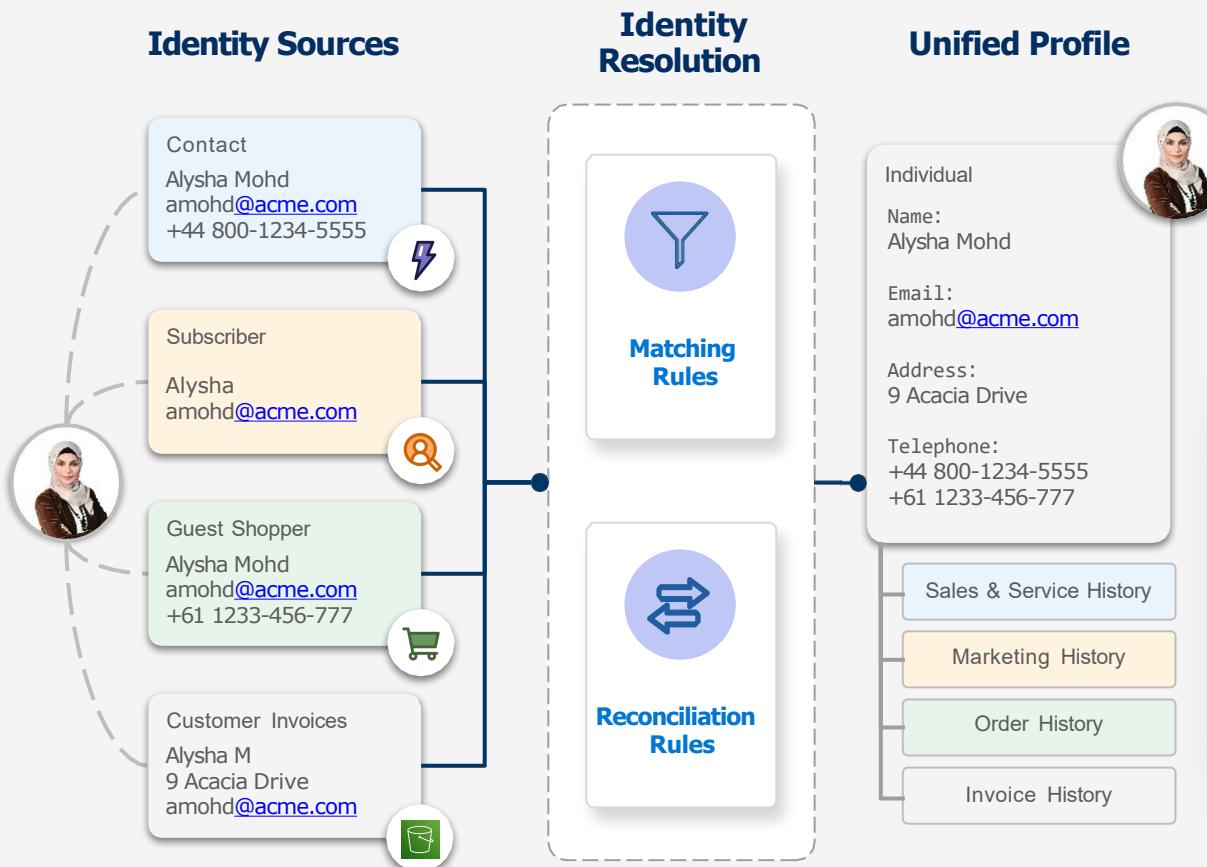
Data Consumption



Identity Resolution



Create a unified customer profile



The screenshot shows the Salesforce Data Cloud Identity Resolution interface:

Identity Resolution Customer Name and Email

Primary Data Model Object: Individual, Ruleset ID: ind, Ruleset Status: Published, Last Job Status: In Progress, Last Job Completed.

Ruleset Properties: Details, Processing History.

Match Rules: Fuzzy Name and Normalized Email.

Reconciliation Rules: (partially visible)

Match Rule Criteria: Add criteria for your match rule. Tell Me More

Object: Individual, Field: First Name, Match Method: Fuzzy.

Object: Individual, Field: Last Name, Match Method: Exact.

Object: Contact Point Email, Field: Email Address, Match Method: Exact Normalized.

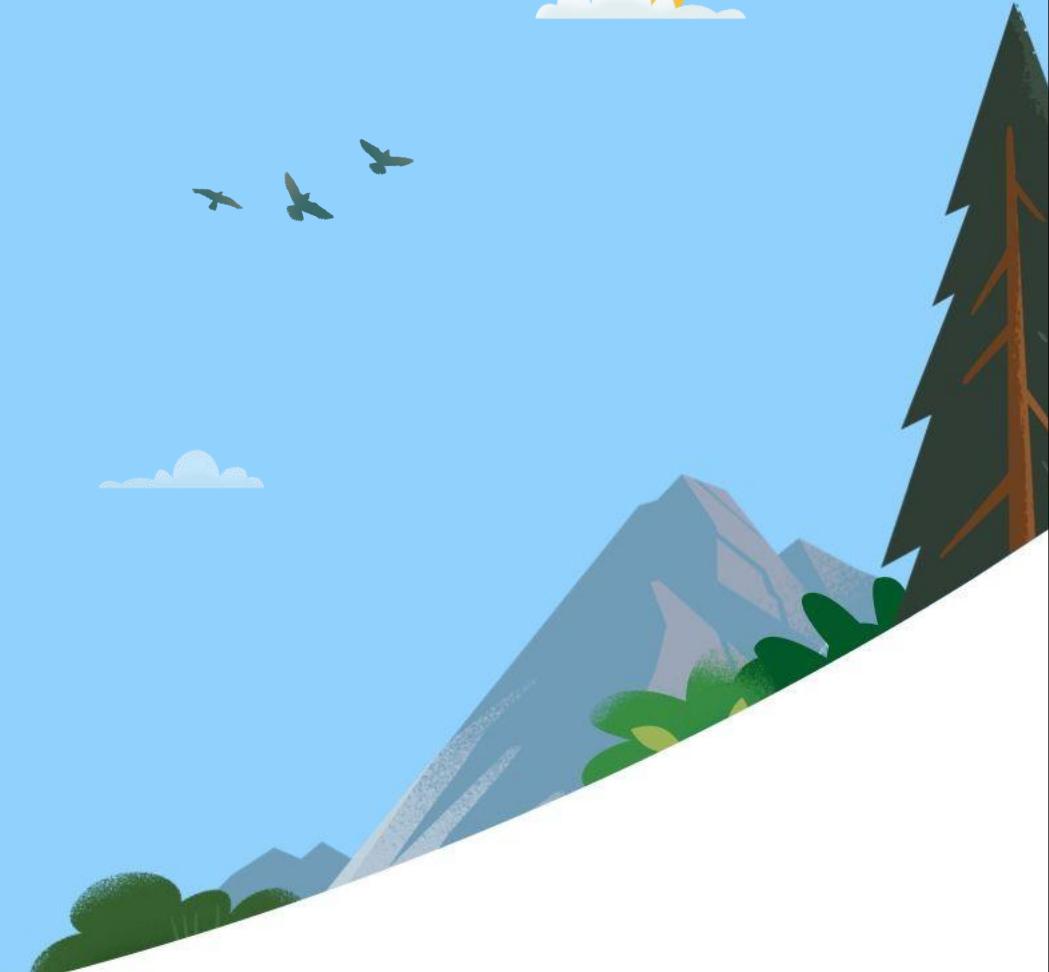
Matching Rule Criteria: (partially visible)

Resolution Summary: Total Unified Profiles: 378.6M / 489.2M Source Profiles, Consolidation Rate: 24%, Matched Source Profiles: 249.5M, Known Unified Profiles: 149.5M, Anonymous Unified Profiles: 249.1M.

Post: Share an update... Share



Let's talk about Data



Let's Talk About Data...

Contextualizing calculated insights



Purchases - In Store

Transaction ID	Client ID	Transaction Date	Amount
123	1	6/2/21	\$250
456	2	6/7/21	\$1,000
519	1	6/8/21	\$1,500
789	3	6/8/21	\$180

Purchases - Online

Transaction ID	Client ID	Transaction Date	Amount
E416	4	6/2/21	\$350
E519	2	6/7/21	\$135
E647	1	6/8/21	\$599
E905	5	6/8/21	\$190

If an individual **purchase** is greater than \$500, flag it as high value

VS.

If **total lifetime purchases** are greater than \$2,000, flag customer as high value

Let's Talk About Data...

Contextualizing calculated insights



Purchases - In Store

Transaction ID	Client ID	Transaction Date	Amount
123	1	6/2/21	\$250
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E905	5	6/8/21	\$190

If an individual **purchase** is greater than \$500, flag it as high value

vs.

If **total lifetime purchases** are greater than \$2,000, flag customer as high value

Formula Fields



Works well on a single record w/in a single object

New Formula Field

Choose items from the functions and fields tabs to create a formula expression.

* Field Label

* Field API Name

* Formula Return Type Select an Option

Search function Attributes

Transformation Formula
IF(condition,resultIfTrue,resultIfFalse)

Tested Value Test Output

IF(condition,resultIfTrue,resultIfFalse)
Returns the second argument if first argument is true, and third argument if otherwise.

If an individual purchase is greater than \$500, flag it as high value

vs.

If **total lifetime purchases** are greater than \$2,000, flag customer as high value

Let's Talk About Data...

Contextualizing calculated insights



Purchases - In Store

Transaction ID	Client ID	Transaction Date	Amount
123	1	6/2/21	\$250
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If an individual **purchase** is greater than \$500, flag it as high value

VS.

If **total lifetime purchases** are greater than \$2,000, flag customer as high value

Calculated Insights

Works well across multiple records *and* objects



New Calculated Insight

Fields

Calculated Insight can affect Data Protection and Privacy compliance. [Tell Me More](#)

* Expression

```
SELECT
SUM(SALESORDER__dlm.grand_total_amount__c) as LTV__c,
Individual__dlm.Id__c as CustomerId__c,
MONTH(SALESORDER__dlm.checkout_date__c) as PurchaseMonth__c,
PRODUCT__dlm.product_category__c as ProductCategory__c
FROM SALESORDER__dlm
LEFT JOIN Individual__dlm ON SALESORDER__dlm.partyid__c = Individual__dlm.Id__c
LEFT JOIN SALESORDERPRODUCT__dlm on SALESORDER__dlm.orderid__c = SALESORDERPRODUCT__dlm.orderid__c
LEFT Join PRODUCT__dlm on SALESORDERPRODUCT__dlm.productid__c = PRODUCT__dlm.productid__c
GROUP BY PurchaseMonth__c, ProductCategory__c, CustomerId__c
```

If an individual **purchase** is greater than \$500, flag it as high value

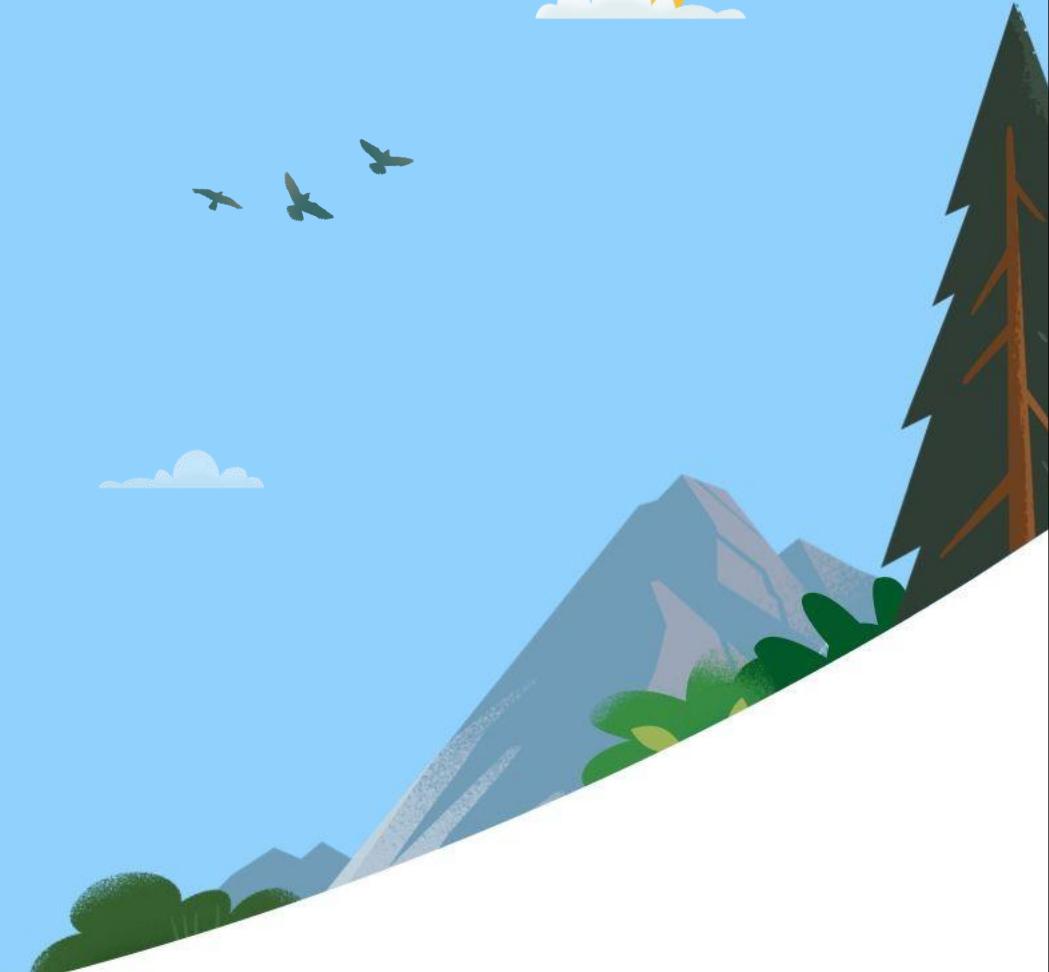
VS.

If **total lifetime purchases** are greater than \$2,000, flag customer as high value



Various Types of Insights

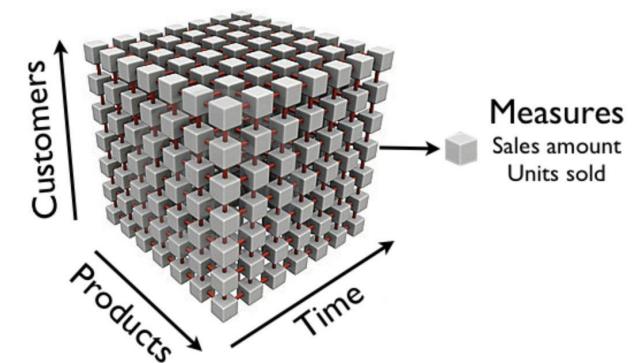
Compare and contrast



Some Key Terms



Attributes	Attributes are fields or information found in a data stream. For example, an attribute can be a person's first name or customer ID.
Measures	Measures are <u>numerical data</u> fields that represent <u>quantitative values</u> . It contains <u>aggregated values</u> of attributes, like the total amount spent or average order amount.
Dimensions	Dimensions contain <u>qualitative values</u> that can be used to <u>categorize a measure</u> . For eg., if you want to see every customer's total amount spent, the customer ID could be a dimension associated with the measure of the total amount spent. Other Examples are like Products, Stores, etc
Foreign Key	A foreign key is a column in a relational database that provides a link between data sources—for example, a customer ID number.
Primary Key	A user-selected unique identifier of a record—for example, a customer email address or a product SKU.



Calculated Insights

Extract Insights About Your Customers



Build Multidimensional Metrics

Define & calculate multi-dimensional metrics on entire digital state stored in Salesforce Data Cloud

Supercharge Segmentation

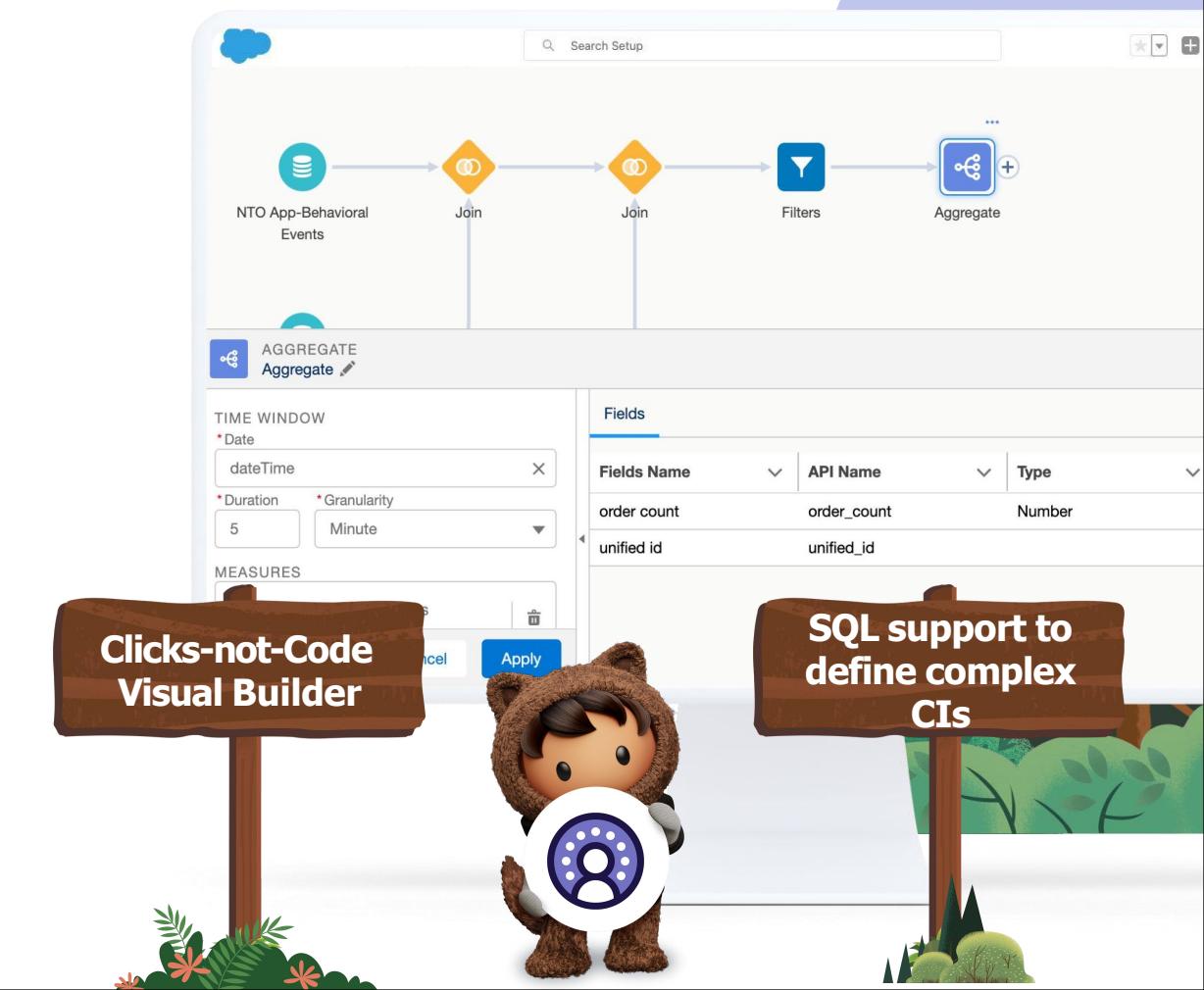
Use calculated insights in Segment Builder to gain deeper understanding of your customers

Activate for Personalization

Personalize using calculated insights

Available Everywhere

- API connected to any touchpoint
- Insights on Tableau and any other platform with JDBC connection.



Calculated Insights

Overview - So, what do you need to know?



What they are:

feature for defining and calculating multi-dimensional **metrics**

How they're created:

(ANSI) SQL or Declaratively via Builder

Where they're accessed:

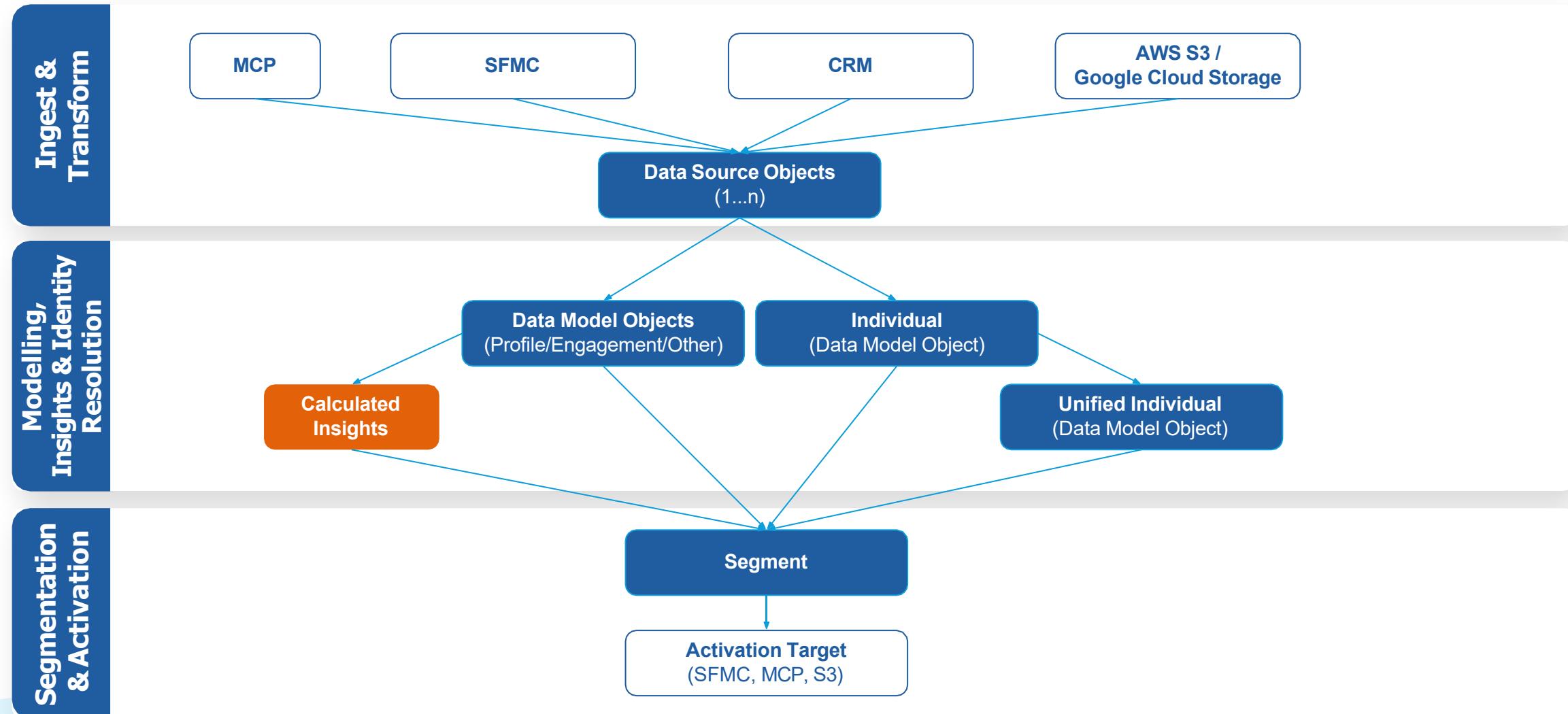
in the Segmentation UI,
as a personalization attribute in Activations,
via API, integrations with BI/ML tools

Why they're useful:

Aggregations,
supports more complex use cases, promotes reusability and consistency, accessible by external systems

Calculated Insights in Data Cloud Data flow

Simple Example



Streaming Insights

Calculate metrics on streaming data to trigger real time experiences



Generate time series analytics on continuously moving (streaming) data

Find useful patterns and share the insights with other apps with Data Actions

Author using the Insights builder as well as SQL

Available with JDBC API as well as visualizations tools such as Tableau

The screenshot shows the Salesforce Streaming Insights builder interface. On the left, a sidebar lists "8 item" with numbered items 1 through 8. Item 1 is expanded to show "RealTimeMobileEvents" fields: A_a Data Source, A_a Data Source Object, A_a cart.interactionName, A_a cart.pageView, A_a cart.sourceChannel, A_a cart.sourceLocale, A_a cart.sourcePageType, A_a cart.sourceUrl, and A_a cart.sourceUrlReferrer. To the right, the main panel is titled "New Streaming Insight". It includes sections for "Fields" (with a "Search Fields" input), "Functions" (with a "Search Calculated Insights and more..." input), and "Expression" (with an "Examples" section containing the following SQL code):

```
SELECT COUNT( RealTimeMobileEvents__dim.order_orderId_c ) as order_count_c,
RealTimeMobileEvents__dim.order_sourceChannel_c as order_channel_c,
WINDOW.START as start_c,
WINDOW.END as end_c
FROM
RealTimeMobileEvents__dim
Where RealTimeMobileEvents__dim.PromotionCode_c='PROMO0098123'
GROUP BY
window( RealTimeMobileEvents__dim.dateTime_c , '5 MINUTE' ),
order_channel_c
```

Below the interface, there is a cartoon character of a brown bear wearing a hoodie, holding a white circular badge with a purple user icon. Two wooden signs are positioned in front of the character:

- A sign on the left reads "Clicks-not-Code Visual Builder".
- A sign on the right reads "SQL support to define complex CIs".

Streaming Insights & Data Actions



Overview - So, what do you need to know?

What they are:

Variant of CIs for near real-time data streams,
WebSDK, MobileSDK, Interaction Studio

How they're created:

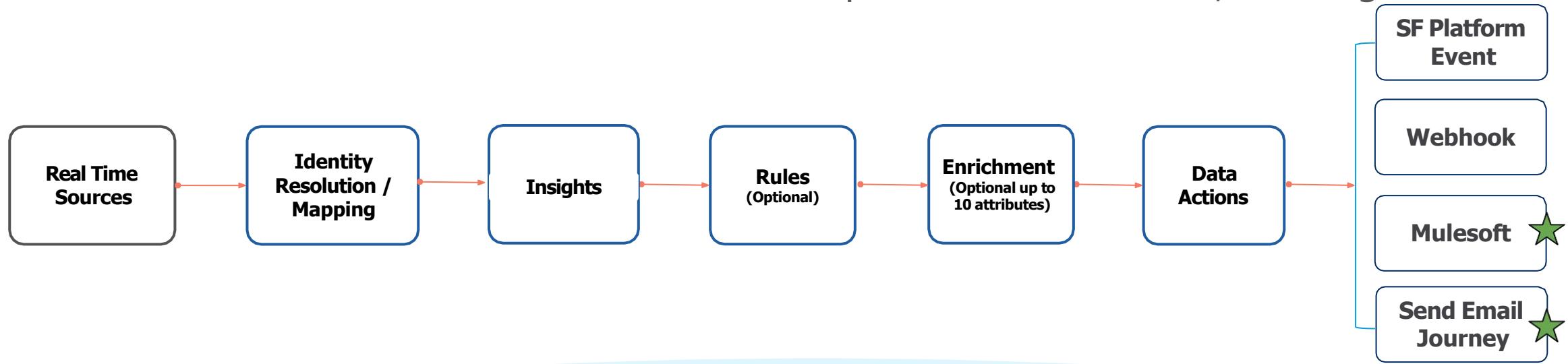
(ANSI) SQL or Declaratively via Builder

Where they're accessed:

Data Actions, JDBC Driver

Why they're useful:

Real-time analytics, **anomaly detection**,
process orchestration, alerting



Insights Use Cases

Practical Examples



Calculated Insights

- Lifetime Value Calculation
- Recency, Frequency, Monetary Value
- Spend by Customer and Product
- Engagement Buckets & Scoring
- Ranking by Category Item Purchase Count
- Unified Health Score (Health Cloud)

Streaming Insights

- Fin Serv: Detect fraudulent transactions and send the account information to fraud department
- Service & Support: Automatically log a case if customer visits multiple troubleshooting pages
- Location Based Engagement: Initiate a workflow if user enters a geofence
- Log Scanning: Filter streaming device log data (e.g. vending machine) and send to other systems



How Casey's Uses Insights

Pizza retailer in America



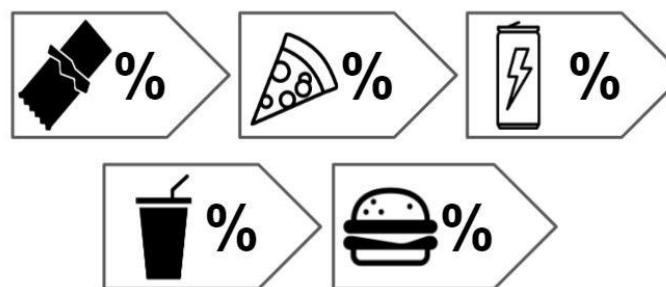
Calculated Affinity Scores

Guest behavioral data is ingested into Data Cloud and calculated to create personalized rankings for every guest.

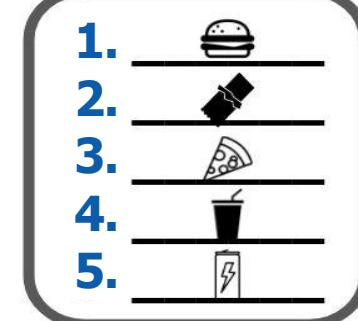
Guest Transactions



Purchase Frequency



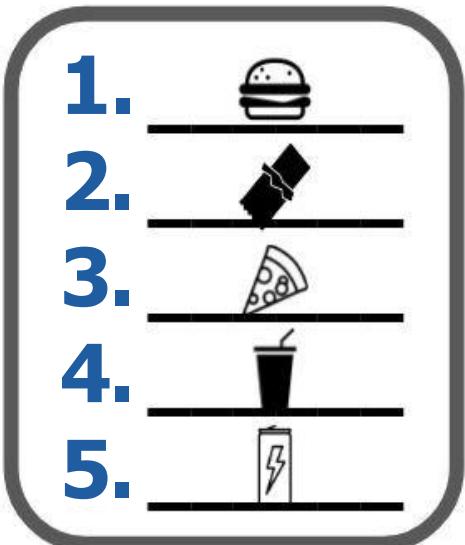
Ranked Affinities



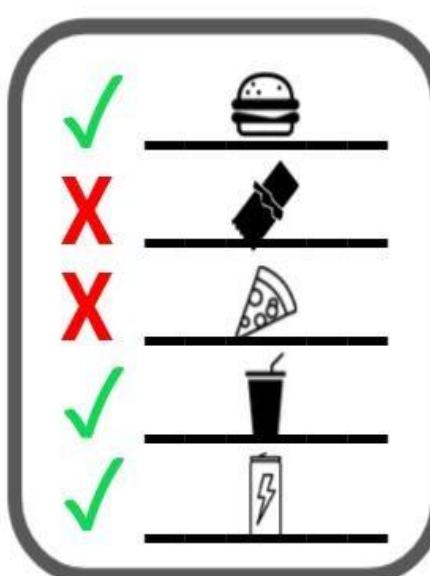
Personalized Messaging

Rankings are checked against available content
to create an unlimited number of messaging variations.

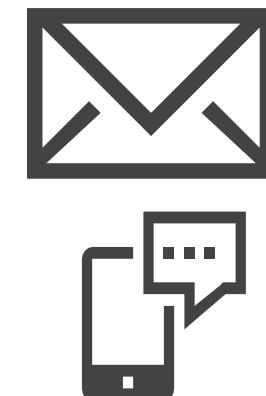
Ranked Affinities



Available Content



Personalized Messaging



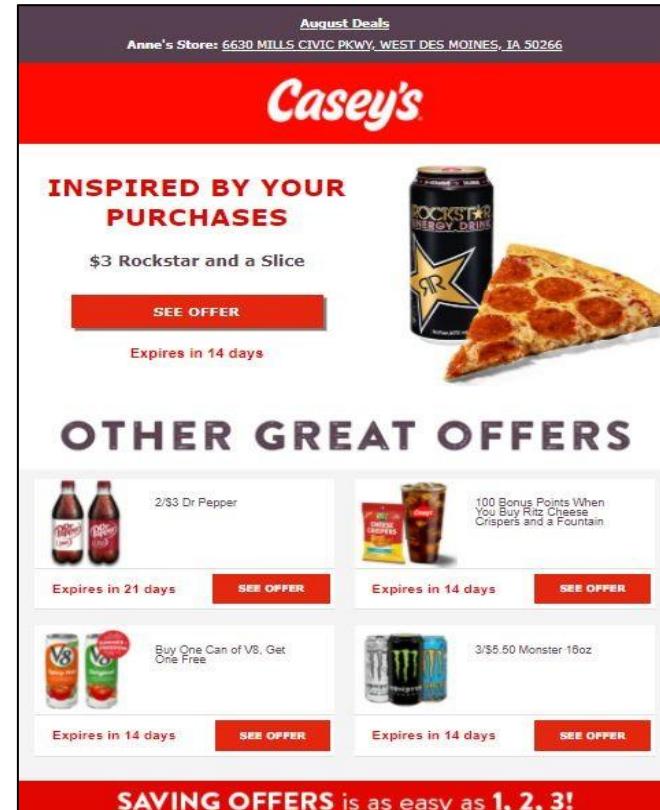
Casey's is Reaping The Rewards



Anne

- Affinity 1: Pizza Slice
- Affinity 2: Dr Pepper
- Affinity 3: Fountain Drink
- Affinity 4: Juice
- Affinity 5: Monster

Data Cloud Insight



The mobile application screen displays "August Deals" for Anne's Store: 6630 MILLS CIVIC PKWY, WEST DES MOINES, IA 50266. The top banner features the Casey's logo. Below it, a deal for "INSPIRED BY YOUR PURCHASES" is shown: "\$3 Rockstar and a Slice". A "SEE OFFER" button and a note that it "Expires in 14 days" are included. To the right is an image of a can of Rockstar Energy Drink and a slice of pepperoni pizza. The main body of the app lists "OTHER GREAT OFFERS":

- 2/33 Dr Pepper (Expires in 21 days, SEE OFFER)
- Buy One Can of V8, Get One Free (Expires in 14 days, SEE OFFER)
- 100 Bonus Points When You Buy Ritz Cheese Crispers and a Fountain (Expires in 14 days, SEE OFFER)
- 3/\$5.50 Monster 16oz (Expires in 14 days, SEE OFFER)

At the bottom, a red banner reads "SAVING OFFERS is as easy as 1, 2, 3!"

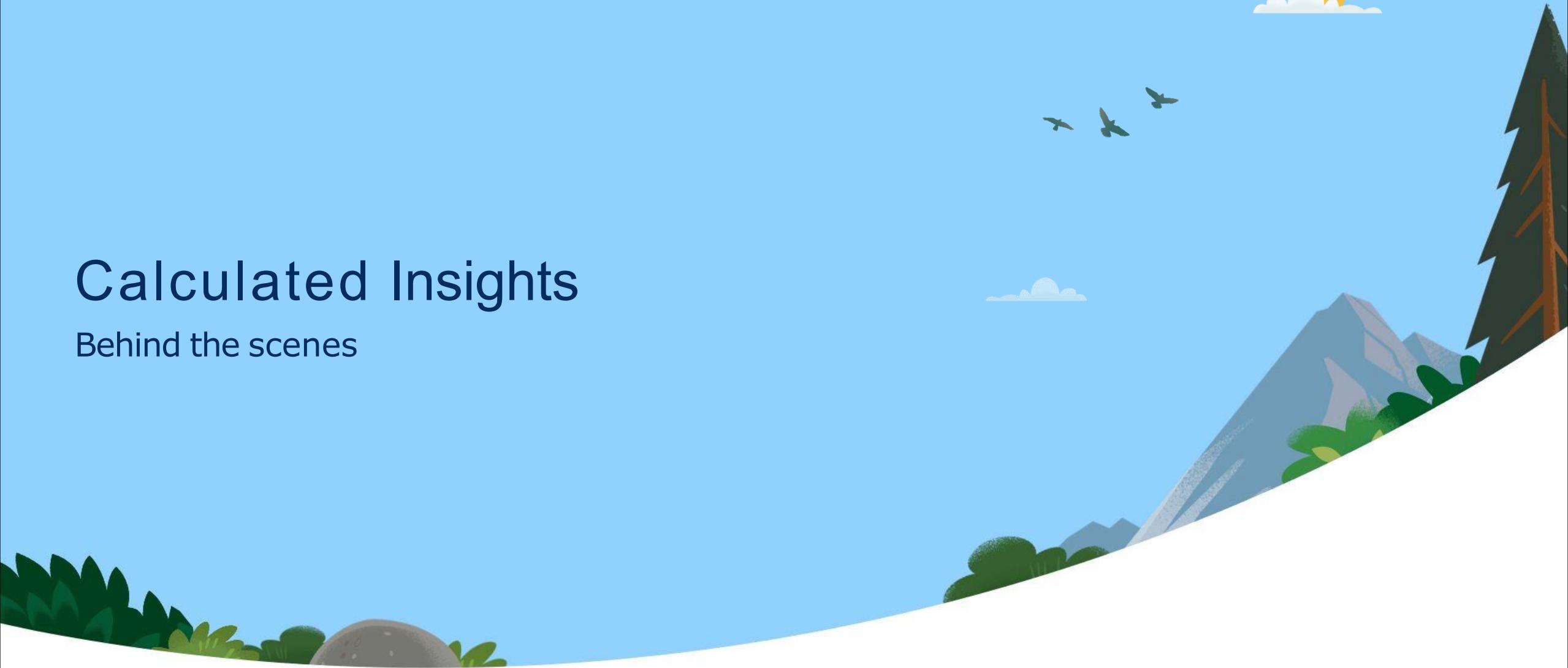
Personalized Messaging
(Powered by MC Engagement)





Calculated Insights

Behind the scenes



Anatomy of a Calculated Insight



Where you find CI in
Segmentation UI

SELECT <Attributes>, <Aggregation[Measures]>
FROM <Data Model Object>
JOIN [Inner | Left | Right | Full] <Data Model Object> [Optional]
WHERE <predicate on rows> [Optional]
GROUP BY <columns[Dimensions]>

Quantitative Values
e.g. LTV_c
Attribute in segment

Qualitative Values
e.g. CustomerID_c
Filter criteria in segment

[Click here to read more](#)



“

*I want to create an Insight that calculates the
“**Lifetime Value**” i.e. the **total customer spend**
for Unified Individual , so that I can use it for
the segmentation and activation purposes*



Exploring CI, Follow along

Sales Orders

Order Number	Order Total	Sold To	Order Date
100001	\$1,000	cust101	2023-05-01
100002	\$2,000	cust101	2023-05-02
100003	\$5,000	cust102	2023-05-01
100004	\$8,000	cust103	2023-05-05
100005	\$7,000	cust104	2023-05-06

Unified Link Individual

Individual ID	Unified ID	Data Source
cust101	dc101	CRM
cust102	dc102	CRM
cust103	dc103	CRM
cust104	dc103	MC

Unified Individual

ID	First Name	Last Name
dc101	Jeff	Smith
dc102	Tracy	Doe
dc103	Pat	Battle

Let Join them, Why?

Joins “flatten” all the objects, now we can group and summarize

Sales Orders

Order Number	Order Total	Sold To	Order Date
100001	\$1,000	cust101	2023-05-01
100002	\$2,000	cust101	2023-05-02
100003	\$5,000	cust102	2023-05-01
100004	\$8,000	cust103	2023-05-05
100005	\$7,000	cust104	2023-05-06

Unified Link Individual

Individual ID	Unified ID	Data Source
cust101	dc101	CRM
cust102	dc102	CRM
cust103	dc103	CRM
cust104	dc103	MC

Unified Individual

ID	First Name	Last Name
dc101	Jeff	Smith
dc102	Tracy	Doe
dc103	Pat	Battle

↓
Joins

Order Number	Order Total	Sold To	Order Date	Unified ID	Data Source	First Name	Last Name
100001	\$1,000	cust101	2023-05-01	dc101	CRM	Jeff	Smith
100002	\$2,000	cust101	2023-05-02	dc101	CRM	Jeff	Smith
100003	\$5,000	cust102	2023-05-01	dc102	CRM	Tracy	Doe
100004	\$8,000	cust103	2023-05-05	dc103	CRM	Pat	Battle
100005	\$7,000	cust104	2023-05-06	dc103	MC	Pat	Battle

Exploring CI, Follow along - Row 1 & 2

Sales Orders

Order Number	Order Total	Sold To	Order Date
100001	\$1,000	cust101	2023-05-01
100002	\$2,000	cust101	2023-05-02
100003	\$5,000	cust102	2023-05-01
100004	\$8,000	cust103	2023-05-05
100005	\$7,000	cust104	2023-05-06

Unified Link Individual

Individual ID	Unified ID	Data Source
cust101	dc101	CRM
cust102	dc102	CRM
cust103	dc103	CRM
cust104	dc103	MC

Unified Individual

ID	First Name	Last Name
dc101	Jeff	Smith
dc102	Tracy	Doe
dc103	Pat	Battle

CI Output

custid_c	LTV_c
dc101	\$3,000

Exploring CI, Follow along - Row 3

Sales Orders

Order Number	Order Total	Sold To	Order Date
100001	\$1,000	cust101	2023-05-01
100002	\$2,000	cust101	2023-05-02
100003	\$5,000	cust102	2023-05-01
100004	\$8,000	cust103	2023-05-05
100005	\$7,000	cust104	2023-05-06

Unified Link Individual

Individual ID	Unified ID	Data Source
cust101	dc101	CRM
cust102	dc102	CRM
cust103	dc103	CRM
cust104	dc103	MC

Unified Individual

ID	First Name	Last Name
dc101	Jeff	Smith
dc102	Tracy	Doe
dc103	Pat	Battle

CI Output

custid_c	LTV_c
dc101	\$3,000
dc102	\$5,000

Exploring CI, Follow along - Row 4 & 5

Sales Orders

Order Number	Order Total	Sold To	Order Date
100001	\$1,000	cust101	2023-05-01
100002	\$2,000	cust101	2023-05-02
100003	\$5,000	cust102	2023-05-01
100004	\$8,000	cust103	2023-05-05
100005	\$7,000	cust104	2023-05-06

Unified Link Individual

Individual ID	Unified ID	Data Source
cust101	dc101	CRM
cust102	dc102	CRM
cust103	dc103	CRM
cust104	dc103	MC

Unified Individual

ID	First Name	Last Name
dc101	Jeff	Smith
dc102	Tracy	Doe
dc103	Pat	Battle

CI Output

custid_c	LTV_c
dc101	\$3,000
dc102	\$5,000
dc103	\$15,000

Calculated Insight Example

Lifetime Value (Total Customer Spend)

SELECT

```
    SUM( SALESORDER__dlm.order_total__c ) as LTV__c,  
    UnifiedIndividual__dlm.Id__c as custid__c
```

FROM

```
SALESORDER__dlm
```

Data Model Object we're aggregating

JOIN

```
UnifiedLinkIndividual__dlm
```

Join with Unified Link Individual DMO

ON

```
    SALESORDER__dlm.SoldTo__c = UnifiedLinkIndividual__dlm.IndividualId__c
```

JOIN

```
UnifiedIndividual__dlm
```

Join with Unified Individual DMO

ON

```
    UnifiedLinkIndividual__dlm.UnifiedIndividualId__c  
    = UnifiedIndividual__dlm.Id__c
```

GROUP BY

```
custid__c
```

Group by each customer

Metrics we are calculating

Dimensions

Common keys tying the objects together

custid__c	LTV__c
dc101	\$3,000
dc102	\$5,000
dc103	\$15,000

Exploring CI, Follow along

Sales Orders

Order Number	Order Total	Sold To	Order Date
100001	\$1,000	cust101	2023-05-01
100002	\$2,000	cust101	2023-05-02
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100004	\$8,000	cust103	2023-05-05
100005	\$7,000	cust104	2023-05-06

Unified Link Individual

Individual ID	Unified ID	Data Source
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cust103	dc103	CRM
cust104	dc103	MC

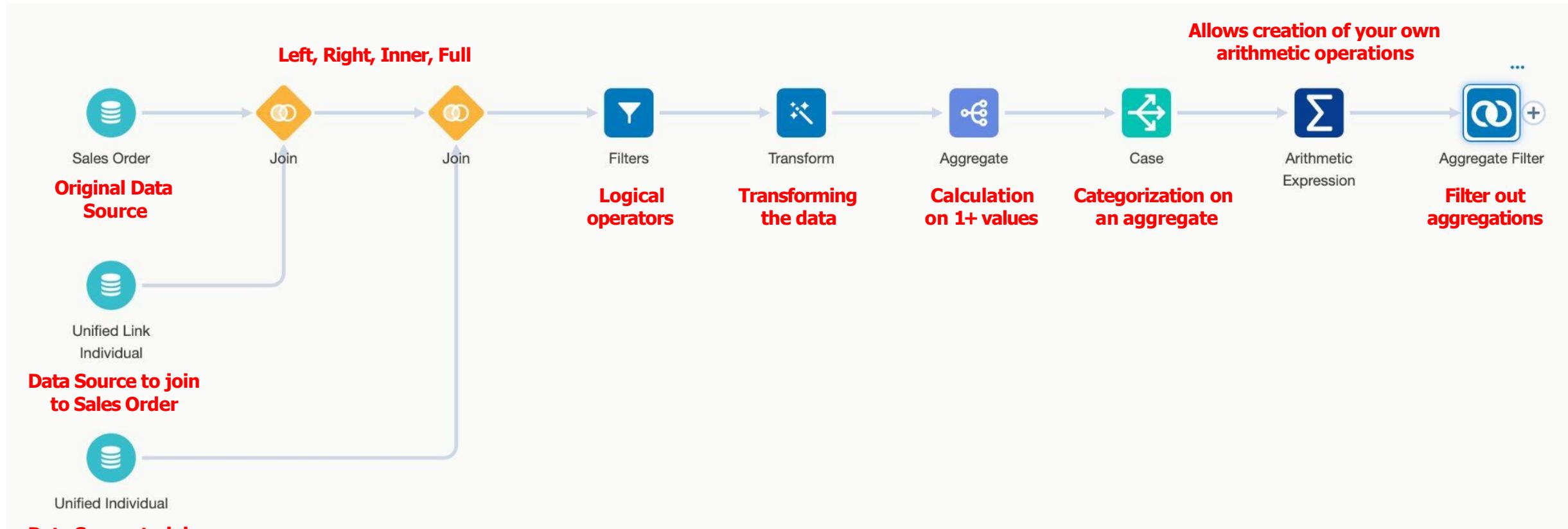
Unified Individual

ID	First Name	Last Name
dc101	Jeff	Smith
dc102	Tracy	Doe
dc103	Pat	Battle

Using the Insights Builder



Visual interface for business users to declaratively build metrics



“

*I want to create an Insight that calculates the “**order amount**” for **all purchases** for **Individual** and Unified Individual records **in the last year** along with the “**first name**”, so that I can use both those fields for the segmentation and activation purposes*

[Jump to Appendix to Explore this >>](#)



Metrics on Metrics

Important!

Allow the output of one CI to be the input of another

Any previous CI can be used

CI's and DMOs can be combined to build new CIs

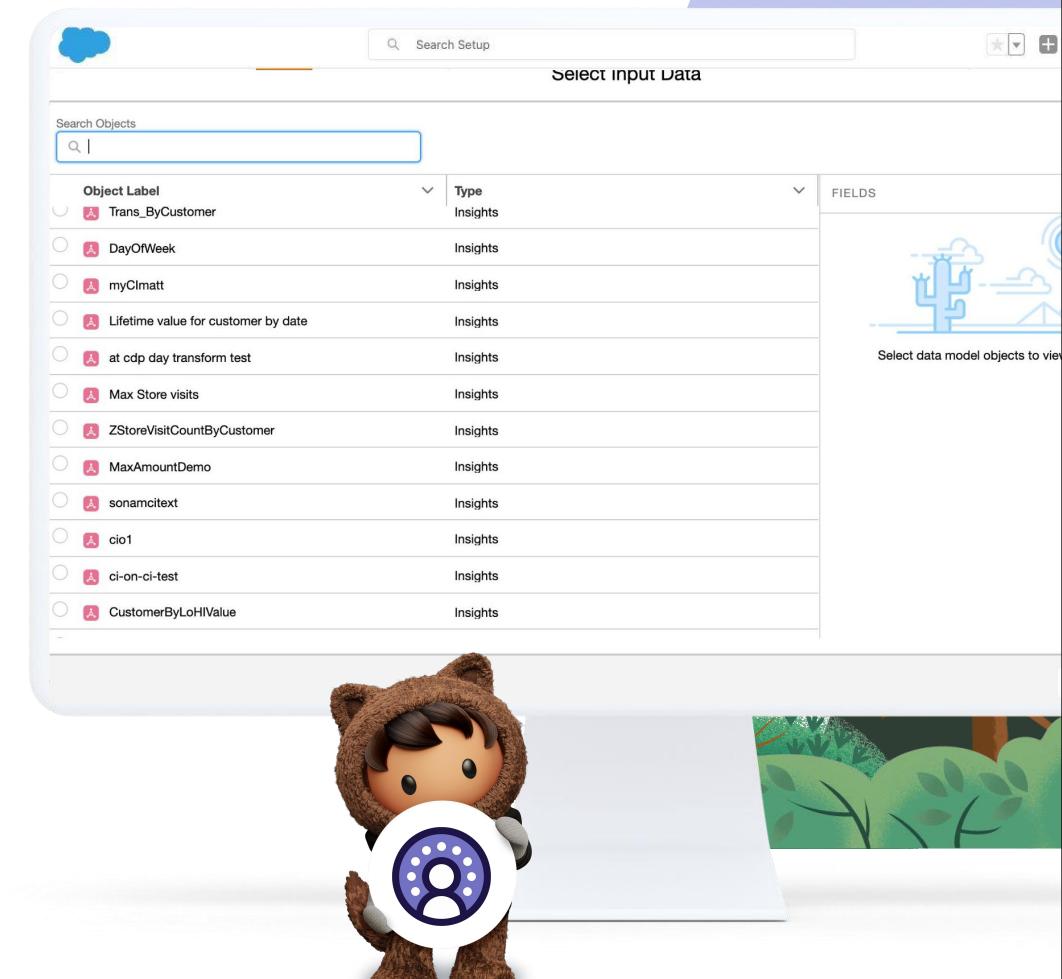
Dependent CI's are executed in order

Maximum 3 levels deep

Few Examples:

Categorize customer in different buckets based on their LTVs,

Infact, for creating any combined metrics based on other metrics



Calculated Insight Example

Lifetime Value (Total Customer Spend)

SELECT

```
    SUM( SALESORDER__dlm.order_total__c ) as LTV__c,  
    UnifiedIndividual__dlm.Id__c as custid__c
```

FROM

```
SALESORDER__dlm
```

Data Model Object we're aggregating

JOIN

```
UnifiedLinkIndividual__dlm
```

Join with Unified Link Individual DMO

ON

```
    SALESORDER__dlm.SoldTo__c = UnifiedLinkIndividual__dlm.IndividualId__c
```

JOIN

```
UnifiedIndividual__dlm
```

Join with Unified Individual DMO

ON

```
    UnifiedLinkIndividual__dlm.UnifiedIndividualId__c  
    = UnifiedIndividual__dlm.Id__c
```

GROUP BY

```
custid__c
```

Group by each customer

Metrics we are calculating

Dimensions

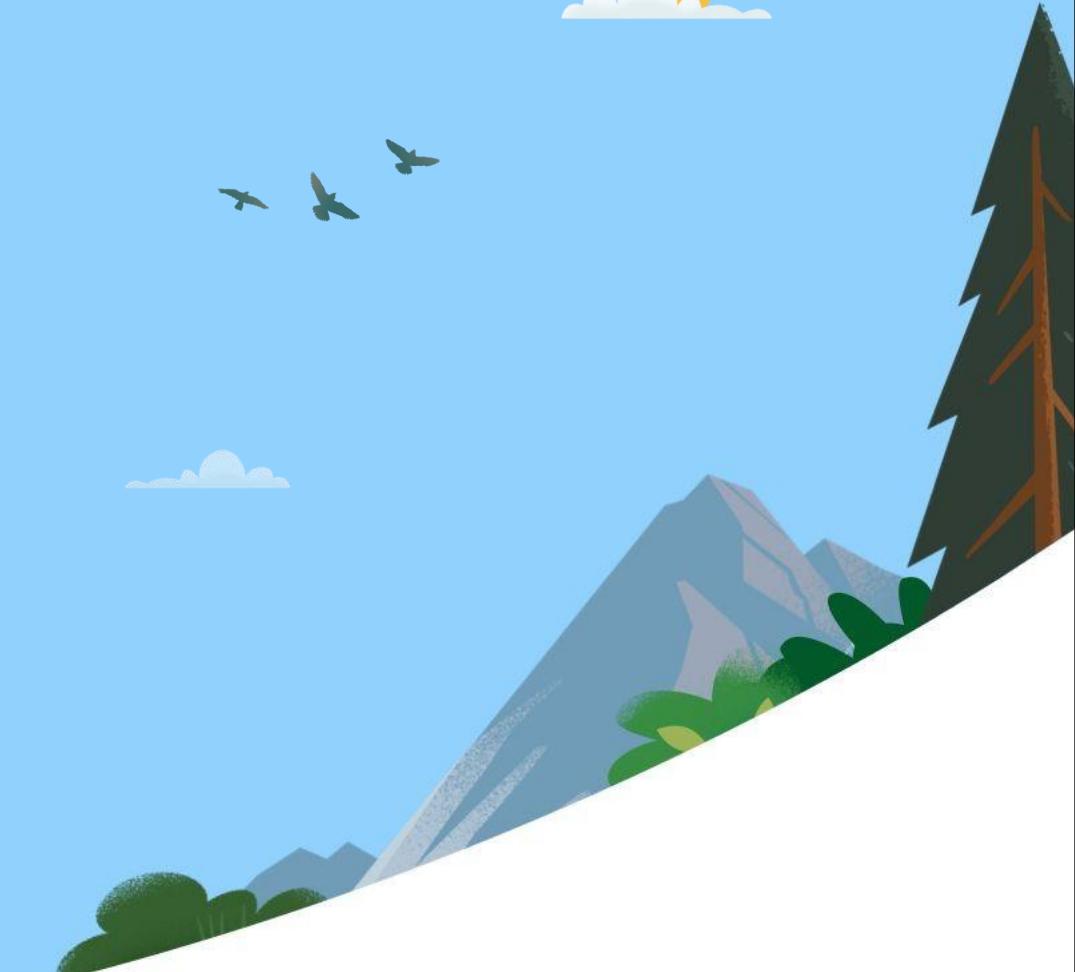
Common keys tying the objects together

custid__c	LTV__c
dc101	\$3,000
dc102	\$5,000
dc103	\$15,000



Streaming Insights

Behind the scenes



Anatomy of a Streaming Insight

Window definition is a required aspect of Streaming Insights!

```
SELECT <Attributes>, <Aggregation[Measures]>,  
WINDOW.START as start_c,  
WINDOW.END as end_c  
FROM <Data Model Object>  
JOIN [Inner] <Data Model Object> [Optional]  
WHERE <predicate on rows> [Optional]  
GROUP BY  
WINDOW(<Time Attribute>, X MINUTE/HOUR), ←  
<other columns[Dimensions]>
```

Quantitative Values
e.g. page_views_c
Attribute in segment
Aggregation can only be
SUM or Count



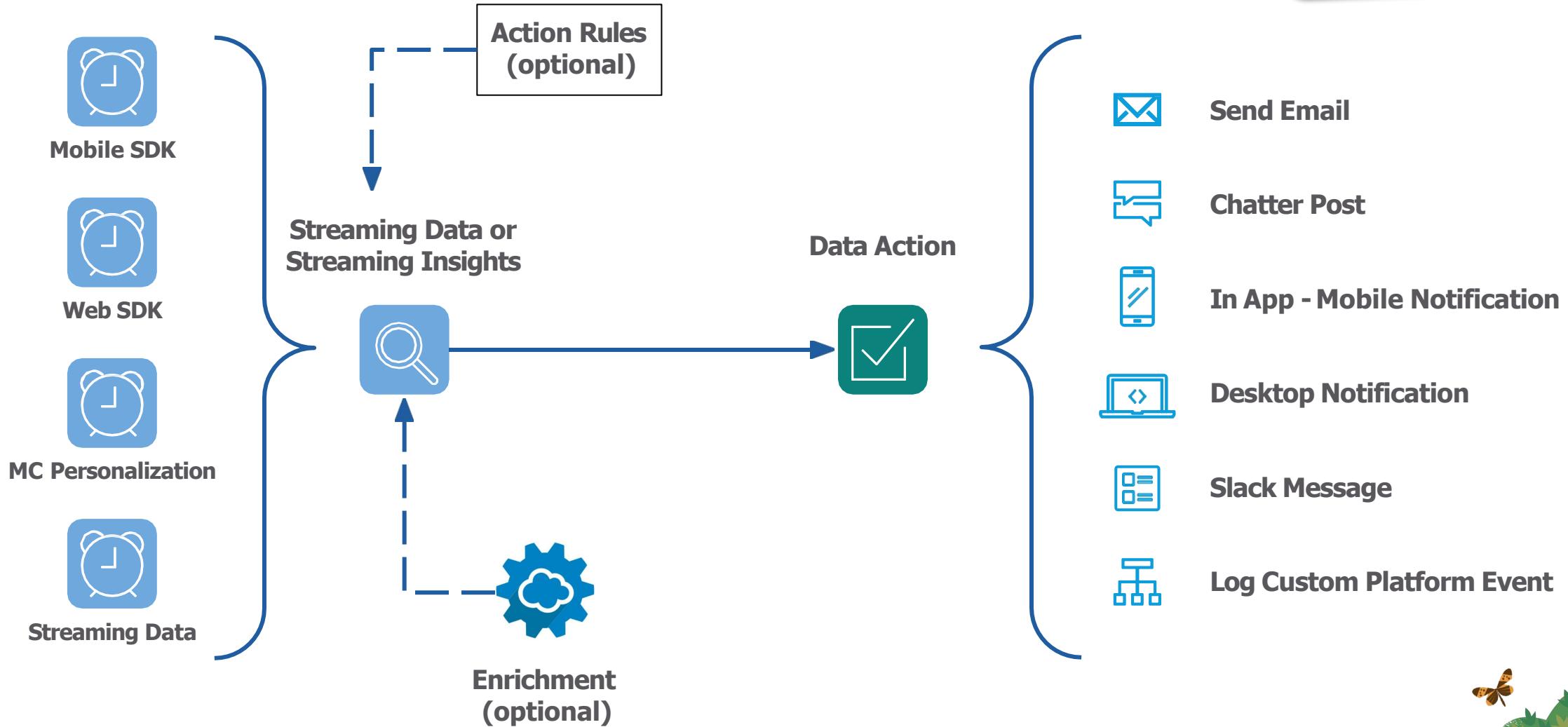
Here we're defining the length of the window. Can be minimum 5 minutes & up to 24 hours.



Streaming Insights

Create insights and drive real time actions on your streaming data

Did you know
Streaming Insights can aggregate data every 5 mins (to 24 hours)

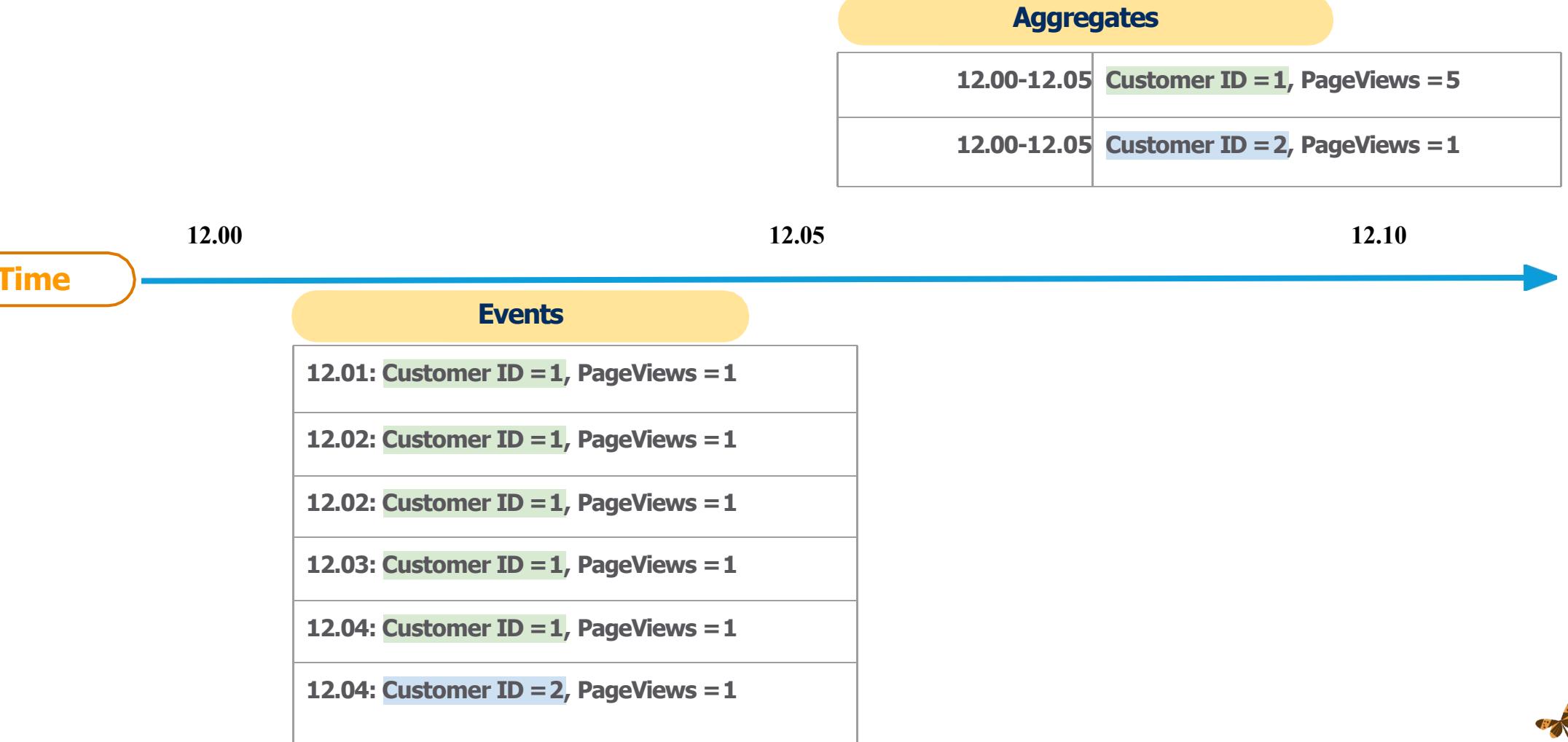


“

*I want to send a Push Notification with a coupon to **any customer** entering a store who **visited** product information **pages on our site** more than 3 times in last 24 hours*



Understanding Streaming Insights



Streaming Insights : Example Results



start_c	end_c	customer_id_c	product_c	page_views_c
12.00	12.05	1	HK0012	5
12.00	12.05	2	JK0078	1
12.05	12.10	3	HK0078	2



Streaming Insights: Resulted Query



Window definition is a required aspect of Streaming Insights!

```
SELECT COUNT( RealTimeMobileEvents__dlm.pageviews__c ) as page_views__c,  
ssot__Individual__dlm.ssot__Id__c as customer_id__c,  
RealTimeMobileEvents__dlm.product__c as product__c,  
WINDOW.START as start__c,  
WINDOW.END as end__c  
FROM  
RealTimeMobileEvents__dlm  
JOIN  
ssot__Individual__dlm  
ON  
ssot__Individual__dlm.ssot__Id__c = RealTimeMobileEvents__dlm.deviceId__c  
GROUP BY  
window( RealTimeMobileEvents__dlm.dateTime__c , '5 MINUTE'),  
customer_id__c
```

Quantitative Values
e.g. page_views_c
Attribute in segment
Aggregation can only be
SUM or Count

Here we're defining the length of the window. Can be minimum 5 minutes & up to 24 hours.



Using the Insights Builder

Visual interface for business users to declaratively build metrics



The screenshot shows the "Calculated Insights Builder" interface. On the left, there's a sidebar with "MobileApp1-Behavioral Events" and an "Aggregate" section. Below it are "TIME WINDOW" (Date: dateTime, Duration: 10, Granularity: Minute), "MEASURES" (+), and "DIMENSIONS" (+). At the bottom are "Cancel" and "Apply" buttons. A large orange arrow points from the text "Min: 5 min" to the "dateTime" field in the time window section.

Min: 5 min → Max: 24 hours

Define Metric

Search Fields

Metric Functions	Fields Name	Source	Type
<u>Count</u>	AddToCartWeb.Custo...	MobileApp1-Behavior...	Text
Sum	AddToCartWeb.currency	MobileApp1-Behavior...	Text
	AddToCartWeb.price	MobileApp1-Behavior...	Number
	AddToCartWeb.produc...	MobileApp1-Behavior...	Text
	AddToCartWeb.produc...	MobileApp1-Behavior...	Text
	AddToCartWeb.produc...	MobileApp1-Behavior...	Text
	AddToCartWeb.sku	MobileApp1-Behavior...	Text
	ConsentWeb.Custome...	MobileApp1-Behavior...	Text

Supported Join: Inner on Engagement to (Unified) Individual



Streaming Insight Considerations



- Aggregation time window 5 minutes to 24 hours
- Can only JOIN to Individual and Unified Individual
 - Pay attention if you are trying to combine multiple DMOs to create an insight
 - e.g. Order Line Item, Order Header - Individual ID is on the Order header but insight is based on data from Order Line Item
- Only supports real time data sources
 - Web & Mobile SDK, MC Personalization
 - Ingestion API is NOT supported
- Streaming Insights are not available in Segmentation & Activation

Comparing Features: CIs vs. Streaming Insights



Category	Calculated Insights	Streaming Insights
Latency of Processing	Data is collected in batches as sets of records and processed as unit	Work on events happening in real time
Volume	Perform complex calculations usually over large historical data	Handles micro batches of few records
Supported Complexity	High	Low (Inner JOIN & SUM, COUNT aggregations only)
Supported Data Sources	Profile & Engagement events (all sources)	Engagement events from “real-time sources”
Available via	Segmentation, Activation, APIs, Analytics	Data Action Targets, JDBC Driver (incl. Tableau)
Useful for	Refining segments, Personalization	Triggering time-sensitive, rule-based actions
Supported Creation Method	Programmatic (SQL) & Declarative (Insights Builder)	

Let's See Data Cloud in Action



**DEMO
TIME|**



Q & A





Thank you

