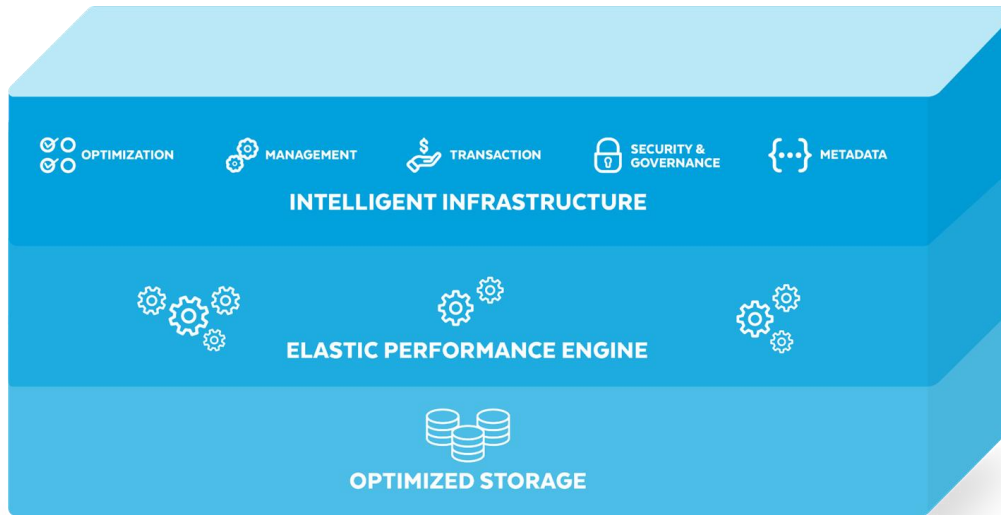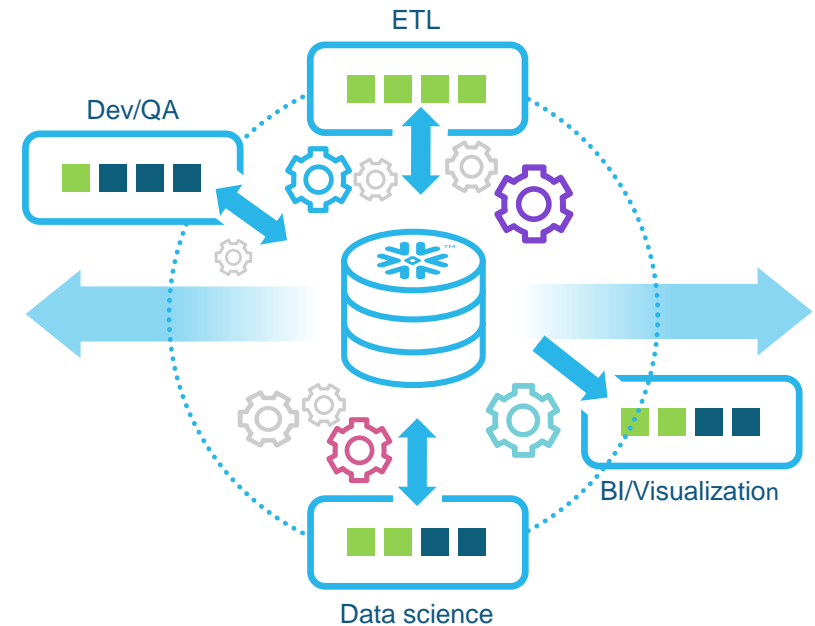# Data Clean Rooms Powered by Snowflake

What is Snowflake?

- ✓ Single, unified cloud data platform

- ✓ Cloud agnostic

- ✓ Self-managed

- ✓ Cross-region & cross-cloud data access & collaboration

- ✓ One engine for every workload

- ✓ Leading performance and concurrency

- ✓ Accessible & programmable

- ✓ Instant, efficient & near-infinite scale

OPTIMIZATION   MANAGEMENT   TRANSACTION   SECURITY & GOVERNANCE   METADATA

INTELLIGENT INFRASTRUCTURE

ELASTIC PERFORMANCE ENGINE

OPTIMIZED STORAGE

ETL

Dev/QA

BI/Visualization

Data science

Know About Data Clean Room

- A secure environment for data collaboration
- Enables multiple parties for joint analysis without revealing the data
- Set of defined guidelines for strong governance
- No physical movement of data required
- Provides anonymized & aggregated user information
- Enables maintaining full control of data
- Use cases like a marketing campaign, optimizing ad placement, fraud detection, etc

Why Do We Need Data Clean Room?

Because of compliance regulations & user data Privacy Laws such as:

- ✓ CPRA: California Privacy Rights Act

- ✓ GDPR: General Data Protection Regulation

Due to the upcoming end of third-party cookies support by browsers, businesses are looking for ways to continue their advertising processes, such as ad targeting and measurement, while respecting users' privacy at the same time.

Snowflake Features: DCR Implementation

✓ DCR is not a separate product
✓ It is a framework built using Snowflake features
✓ It is a solution that leverages core Snowflake collaboration and data governance features

Row Access Policy

✓ Match customer data without Exposing PII

Stored Procedures
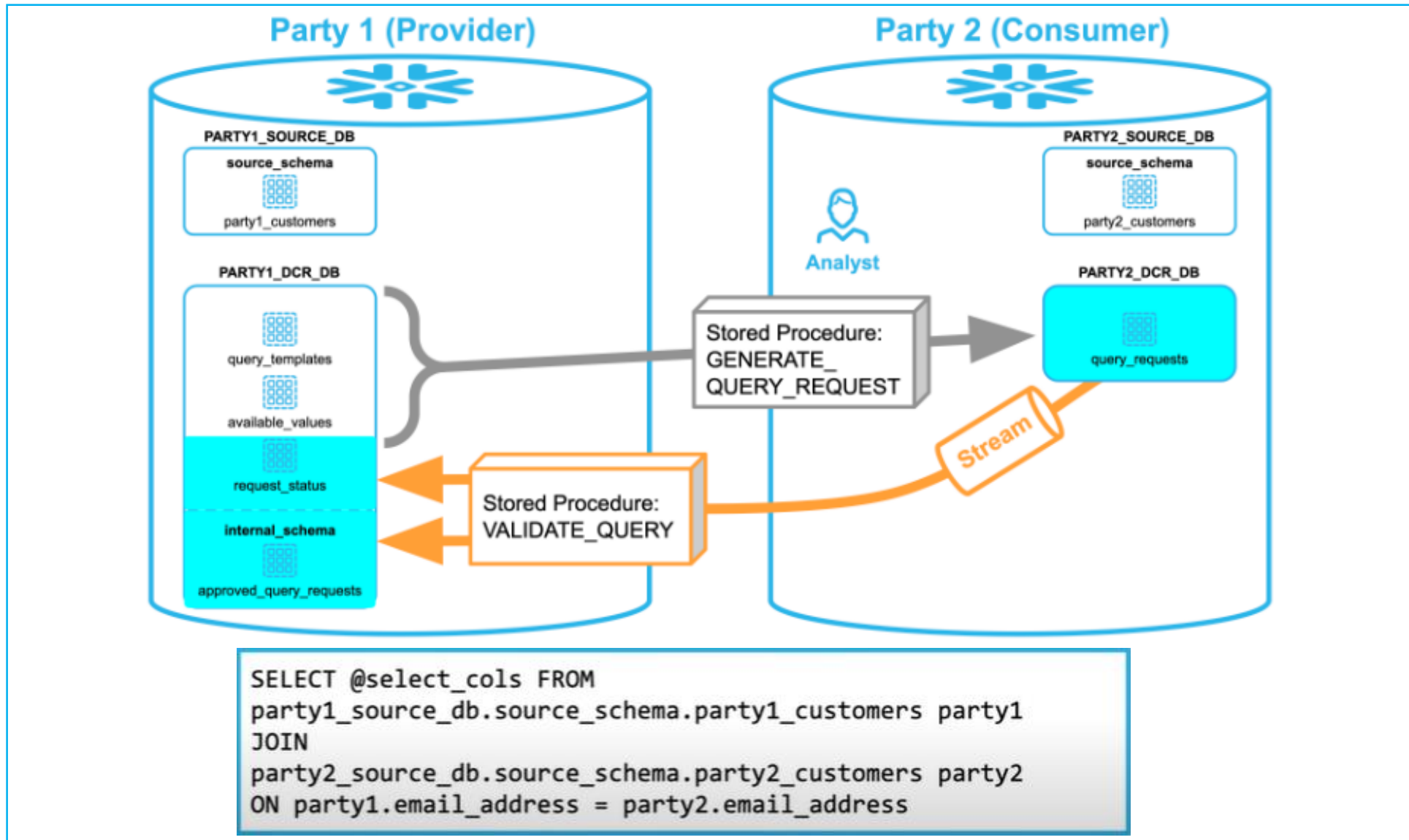
✓ Validate Query Result

Secure Data Sharing

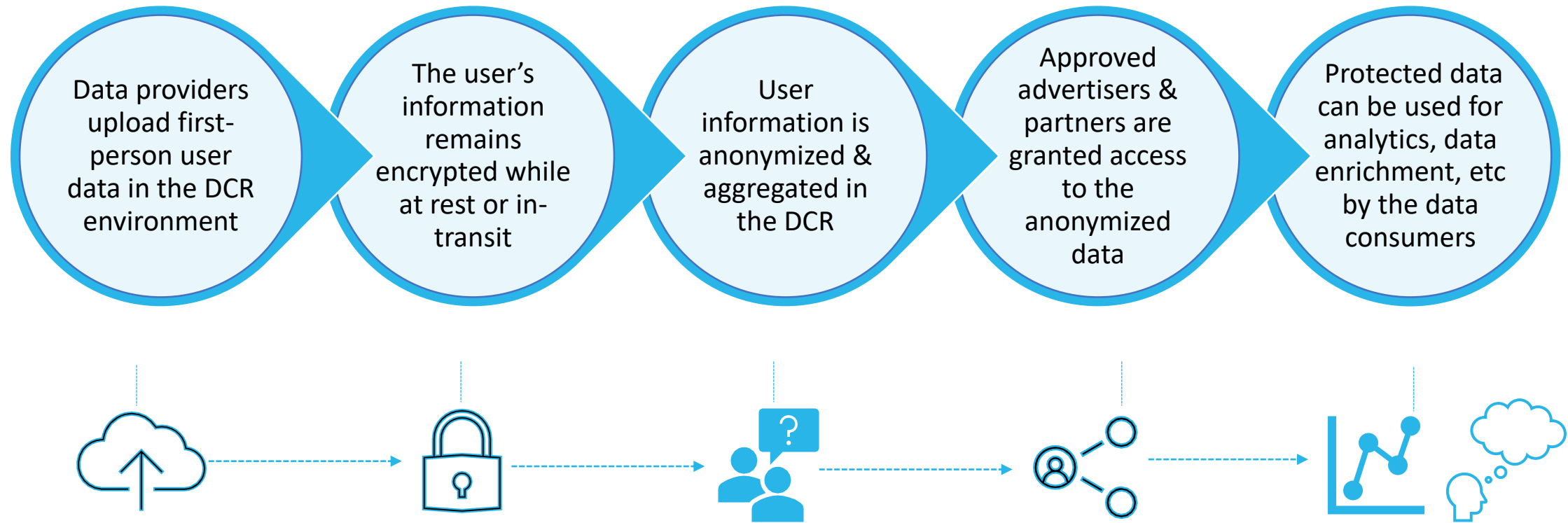✓ Securely share tables between multiple Snowflake accounts

Streams & Tasks

✓ Monitor for data clean room requests and response automatically

DCR Powered By Snowflake: Architecture

How do Data Clean Rooms Work?

Data providers upload first-person user data in the DCR environment

The user's information remains encrypted while at rest or in-transit

User information is anonymized & aggregated in the DCR

Approved advertisers & partners are granted access to the anonymized data

Protected data can be used for analytics, data enrichment, etc by the data consumers

Benefits of DCR

DCR provides the following benefits to the marketer, advertisers, and data providers:

Regulatory Compliance	**Data Monetization**	**Security**
Share data being compliant with privacy regulations such as GDPR, CPRA	Provides a platform to securely share data without revealing the underline data	No data movement is required for collaborations

Privacy-Friendly	**Quick & Easy Setup**	**Cookies Less Solution**
Protect against reverse engineering or re-identification of highly sensitive data by limiting the types of queries that can be run on the data	DCR can be set up in a few hours.	Advertisers can run personalized ads, measurements, and attribution without third-party cookies.

DCR Industry Case Study

Publishers Leveraging Snowflake Clean Room

Media Publisher	Referenceable partners	Description	Application Layer
Disney Ad Sales	• Omnicom Media Group • Drivetime	Leveraging the power of the Media Data Cloud, Disney Ad Sales has launched an innovative new advertising platform using Snowflake's clean room technology	*Habu*
NBCUniversal	• Omnicom Media Group	Announcing the NBCU Audience Insights Hub, built on a data clean room environment powered by Snowflake, that unlocks data interoperability between NBCUniversal and its advertising ecosystem partners	*Owned and Operated*
Roku	• Omnicom Media Group • dentsu • Horizon Media • Icon Media Direct • Camelot	Roku announces a clean room that allows advertisers on the streaming platform to find and target CTV viewers they already have a relationship with through other channels, built on the Media Data Cloud	*Owned and Operated*
OPEN Λ.P.	• Fox • NBCU • Paramount • Warner Bros • Discovery	OpenAP announces the OpenAP Data Hub, a cross-platform and cross-publisher clean room solution for enhanced audience building, activation and measurement for television, built on Snowflake's Media Data Cloud. *OpenAP will release the first of several planned capabilities for production use at the start of Broadcast Year 2023.*	*Owned and Operated*

Application Partners Building on Snowflake Clean Room

Audiences & Targeting

84.51°

84.51 is a retail, data science, insights and media company that leverages Snowflake Data Clean Rooms to securely share data in a privacy-centric way with their CPG customers to create richer insights and knowledge about customers and deliver personalized experiences for shoppers.

Identity Services

neustar

Neustar Unified Identity is native to Snowflake Marketplace and enables advanced identity resolution in through Snowflake's clean room capabilities. These capabilities allow customers to better protect and govern their consumer data assets, power privacy-enhanced data collaboration with brands and publishers, and enable continuous, real-time data updates.
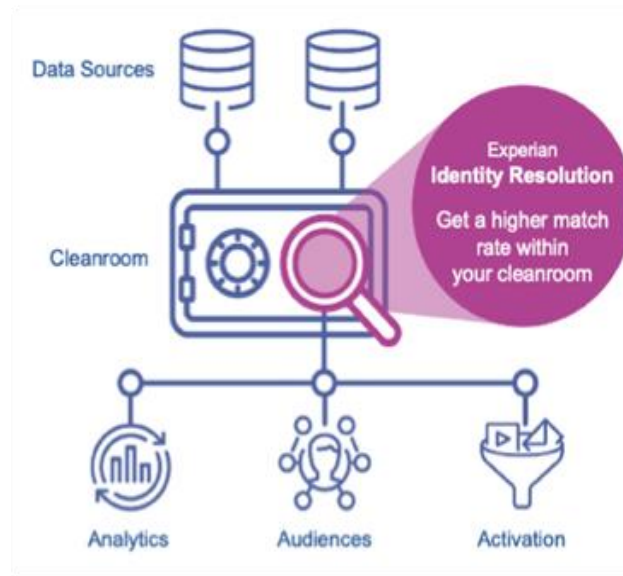
Measurement

videoamp

Via a multi-party cloud environment, Videoamp allows advertisers to holistically measure their own advanced audiences across traditional linear TV, connected TV, and online video.

Application Partners Building on Snowflake Clean Room

Experian Identity Resolution on Snowflake

Achieve higher match rates within a clean room.

Being able to match distributed audiences and expose overlapping trends such as buying traits and behaviors, it allows users to:

- Create new audiences

- Gain insightful measurement quickly

- Explore predictive modeling

- Improve audience targeting efforts
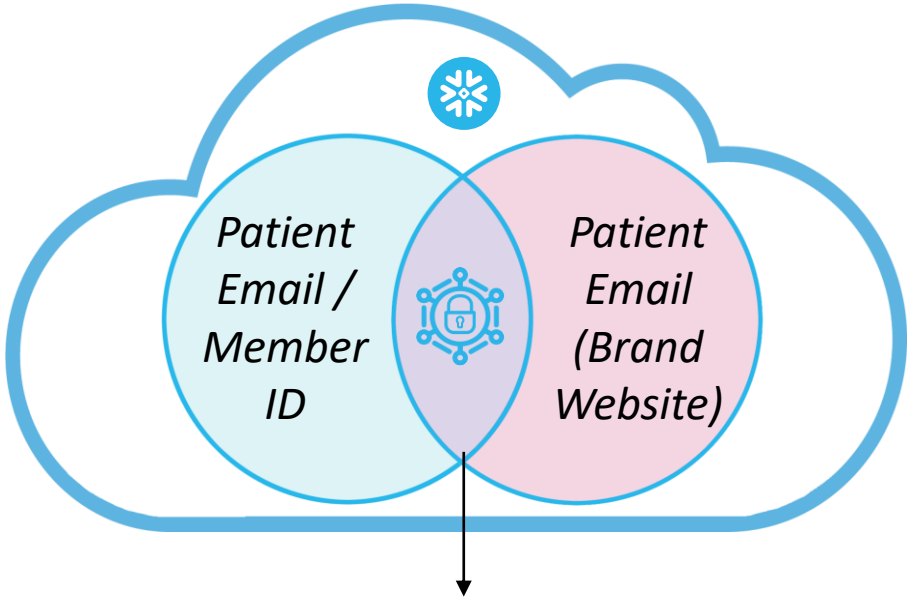
Example Use Case: Focused HCP Targeting

Healthcare Payer / Provider

Objective:

- Provide effective, value-based care
- Accelerate the patient journey
- Manage risk
- Maintain patient privacy, compliance with PHI, HIPAA, etc

Data:

- Patient ID, patient email address, age range, associated attending physicians, NPI #

Brand / Pharma

Objective:

- Identify specific HCP's to target for focused engagement
- Better predict return on advertising spend
- Attain timely, granular attribution analytics

Data:

- Web traffic, Brand portal interaction, patient email address

Patient Email / Member ID

Patient Email (Brand Website)

NPI #	HCO	ZIP	Target	KOL	Therapeutic Area	Patients / Week	Last Activity Date
1234567890	RWJ Barnabas	08901	Y	1	Oncology	75	8-May
9876543210	Kaiser Permanente	98004	Y		Neurology	26	31-Jul
1112223334	Advocate Aurora	60504	N		Cardiovascular	61	3-Sep
8675309111	Memorial Sloan Ket	10065	Y		Oncology	53	14-Apr
1010101010	~~Univ of Penn Med~~	~~19106~~	~~N~~	~~1~~	~~Immunology~~	~~17~~	~~7-Jan~~

Redacted to reduce the risk of re-identification

CROSS-INDUSTRY USE CASES

Advertising

- Audience insights
- Segmentation
- Measurement (reach & frequency analysis)
- Multi-touch attribution
- Activation

Retail & CPG

- Optimize their marketing and promotional activities
- Product decisions (new product categories to enter)
- Supply chain decisions (how much to distribute to which distribution center).

Life Sciences & Healthcare

- Clinical trials analysis
- Population selection
- Efficacy measurement
- Safety analysis
- Drug discovery

Financial Services

- Fraud detection modeling
- Anti-Money Laundering (AML) compliance.
- Securely share sensitive position and portfolio data for risk analysis, exposure analysis, regulatory, and settling activities

Government

Allow different agencies to share data with each other, e.g. surveillance, communications, watch lists, monitoring, aerial images, video, audio, and language translation.

DCR Use Cases

Customer Enrichment & Customer Overlap

The Consumer can enrich their data from the Provider's data already available in the DCR environment through various pre-defined query templates.

Monetize Data

The Data providers can upload their data into the DCR environment & monetize their data without moving their data or exposing PII

Run an AD campaign

Advertisers can collaborate with Data providers/publishers to run an AD campaign on their selected consumers

Resources to Explore more on DCR

- https://www.snowflake.com/blog/data-clean-room-explained/

- https://www.snowflake.com/trending/data-clean-room-for-business-growth

- https://quickstarts.snowflake.com/guide/build_a_data_clean_room_in_snowflake_advanced/#0