

Flexibly access enterprise data with Federated Audience Composition

A Guide

Adobe

Executive summary

In our conversations with Adobe Experience Platform customers and partners, we hear common challenges related to data movement and how data warehouse investments relate to Adobe Experience Platform.

- "I don't want to make copies of the data that already lives in my data warehouse."
- "I have sensitive data I don't want to ingest into Adobe Experience Platform, but I want to use for engagement workflows."
- "I need to manage costs and want to build on top of my existing data warehouse rather than buy a new application."

To address these concerns, it's important to consider the required technical capabilities and the downstream business impact of different approaches to data access. End users need to be able to reduce data movement, to govern and control the datasets they work with, and to ensure they aren't purchasing redundant technology solutions. In addition, end users need the ability to use

data to drive revenue by attracting new customers and increasing the lifetime value of existing customers. Any solution to address data movement challenges must also support the goal of meeting and exceeding customer expectations for personalized experiences that drive conversion, loyalty, and lifetime value.

Patterns of data access for marketing use cases have evolved over the years. Marketers have used data management platforms (DMP) or customer data platforms (CDP) to consolidate and unify disparate datasets for customer experience use cases. In parallel, IT and data teams have consolidated enterprise data in data warehouses for analysis and business insights. Increasingly, these teams have explored ways to work together so enterprise data can be leveraged for marketing workflows using data federation.

Data federation combines data from multiple sources into a unified format where users can access relevant datasets while reducing data movement by eliminating the need to copy underlying data. Federated Audience Composition, a feature within Adobe Experience Platform that is available for Adobe Real-Time Customer Data Platform (CDP) and Adobe Journey Optimizer, is the next step in this data management and activation evolution. Federated Audience Composition provides flexible access to compose enterprise data as needed to address business challenges. With Federated Audience Composition, organizations leverage the strengths of data consolidation and data federation to power customer experiences.

Adobe Experience Platform Federated Audience Composition brings together ingestion and federation capabilities to work with critical audience data.

1. Introduction

Introduction

With the explosion of digital media over recent years, data has never been more abundant. This influx of data means that companies now have more information than ever to aid in business and marketing decisions, but it also introduces new challenges.

First, data is typically stored across several different business groups, and it's common for each segment to use its own technologies and formats. However, as the volume of data expands, so do the data silos within companies. When data is siloed, it becomes more difficult for companies to extract meaningful insights from that data, which puts them at a disadvantage for making well-informed decisions.

To address this, some organizations have implemented a data consolidation strategy. This strategy typically follows data ingestion and focuses on bringing together different data repositories into a unified platform, usually in the form of an enterprise data warehouse. However, unifying data alone doesn't make the data actionable. When data isn't actionable, it hinders companies from delivering the seamless, low-latency experiences that many customers expect.

Although solutions exist that provide an activation layer directly from a warehouse, these tools often lack the sophistication, data enrichment, processing speed, and real-time activation to power in-the-moment experiences that specialized solutions offer.

In contrast, a data federation strategy involves the establishment of a virtual,

distributed database. Multiple remote databases are interconnected and integrated through a metadata layer, which organizes and manages the data based on context instead of location. This metadata layer serves as a roadmap for integrating and accessing data within the federated database.

This approach has the benefit of efficiency. It reduces data movement, and it makes data assets available to the teams that need them. However, there are two key challenges with this strategy. The first is its complex architecture, and the second is that existing marketing systems often struggle to support a federated approach.

To address these challenges while offering the benefits of each strategy, Adobe introduced Federated Audience Composition in Adobe Experience Platform. Federated Audience Composition is designed to flexibly manage data by giving businesses the option to federate and ingest their data built with the following marketing functions and use cases:

- Audience creation
- Audience enrichment
- Customer profile enrichment

With Federated Audience Composition, businesses that have Real-Time CDP or Journey Optimizer can use a marketer-friendly interface to access their data warehouses, build audiences, and refine existing audiences in one single system. It allows brands to expand access to critical warehouse-based datasets while minimizing data movement and duplication when powering customer engagement use cases.

Federated Audience Composition allows businesses to use data where it already resides instead of setting up data migration processes (unless otherwise demanded by the use case). This means that data is always updated for faster marketing campaign execution and convenient access.

Businesses that already have data on their customer attributes and preferences can supplement it with complementary information from other data sources to improve customer segmentation and communication.

2. How does Federated Audience Composition work?

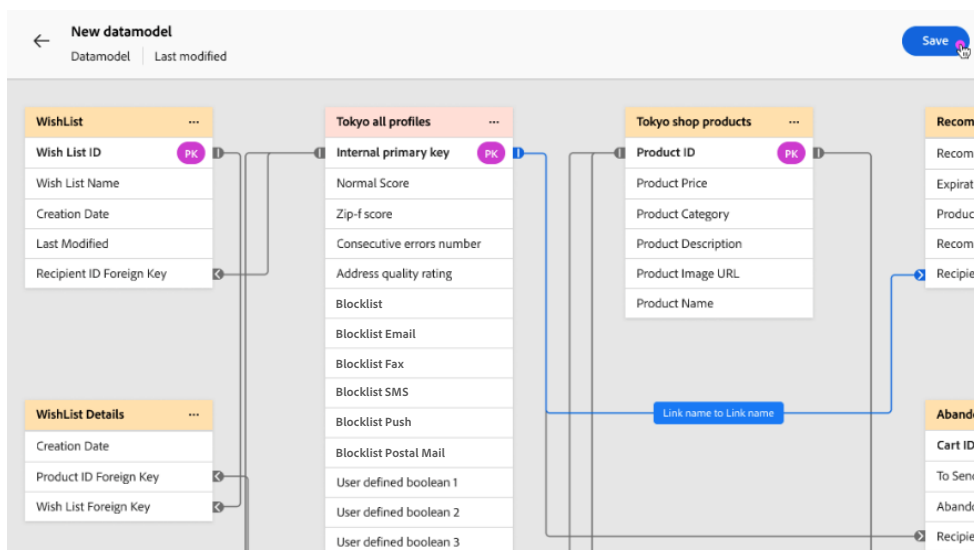
How does Federated Audience Composition work?

Federated Audience Composition complements Adobe Experience Platform workflows by expanding access to critical warehouse-based datasets while minimizing data movement and duplication. It does this by querying one or more central databases without copying underlying data. This allows businesses to quickly process information stored in one or more external data sources. It also removes the need to ingest all data to Adobe Experience Platform and ensures that essential data residing in the data warehouse is up to date for experience use cases. In addition to reducing data duplication, Federated Audience Composition provides access to

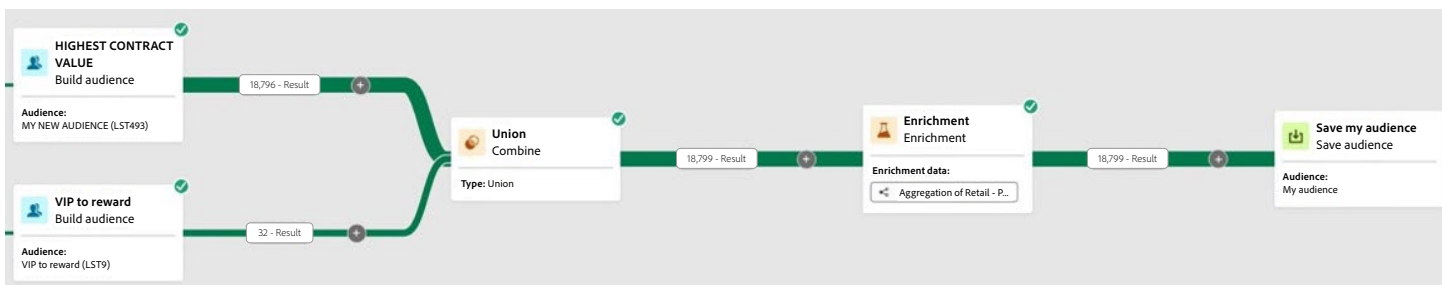
new datasets that reside in enterprise data warehouses but have up until now been inaccessible for customer experience workflows. Examples may include historical transactions or personal data that will be useful at an aggregated audience level for customer engagement.

Data federation also provides business users with the ability to locate and segment their customer data for rich and accurate marketing execution without support from technical teams.

1. An intuitive interface creates links between the target audience and the external data models.



2. Business users can then leverage a composition canvas to bring together federated audiences for activation and/or enrichment.



3. Federated Audience Composition use cases.

Federated Audience Composition use cases.

Federated Audience Composition supports three categories of use cases: Audience creation, audience enrichment, and customer profile enrichment.

Audience creation: Businesses can create audiences from a data warehouse and federate those audiences into Adobe Experience Platform for use in Real-Time CDP or Journey Optimizer. This can be done using a marketer friendly, drag-and-drop interface. Audience creation allows businesses to query their warehouses without copying sensitive underlying data or duplicating existing data.

- **Example:** Create an audience of high-value past purchasers using historical transaction data in the warehouse, without copying those transactions into Adobe Experience Platform.

Audience enrichment: Audience enrichment allows businesses to add more detail to existing audiences in Adobe Experience Platform by utilizing additional datasets that live in the business's data warehouse and bring the resulting enriched. Audience enrichment allows businesses to add more detail to existing audiences in Adobe Experience Platform by overlaying these audiences with federated audiences from datasets that reside in the data warehouse. The underlying data is not copied into Adobe Experience Platform profiles, and marketers can deliver improved personalization with the enriched audience.

- **Example:** Enriching an Adobe Experience Platform audience of cart abandoners with the Federated Audience Composition audience of high-value past purchasers to deliver a targeted offer.

Customer profile enrichment: Businesses can select individual customer attributes from data warehouse(s) to enhance the experience the customer has in the moment. With federated enterprise data retained within actionable profiles, these data attributes become available to power in-the-moment experiences triggered by inbound customer event signals.

- **Example:** A site visitor who belongs to the high-value past purchasers federated audience arrives on site and immediately receives a targeted offer, triggered by their behaviors on site.

Because Federated Audience Composition provides the option to use a federated approach for querying data warehouses, businesses can create hyper-targeted audiences while also providing instant, cross-channel communication. This results in less data movement and provides new opportunities for using audiences and attributes for consistent customer activation.

The key advantage of Federated Audience Composition is the added layer of flexibility for businesses that use both Real-Time CDP and Journey Optimizer. Businesses can choose which data they want to use, when they want to use it, without worrying about duplicating datasets or integration patterns.

4. When to federate vs. ingest.

When to federate vs. ingest.

It's important for teams to consider the following before choosing to federate or ingest their data:

- Their current data landscape
- The data sitting in different systems that's needed to power customer experiences
- The use cases to be executed and their corresponding latency requirements
- Their systems of activation

Businesses that use Federated Audience Composition have the choice to federate or ingest their enterprise datasets. When choosing between the two, they should consider the following:

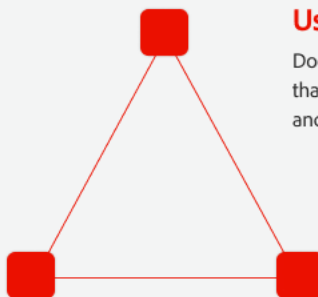
- **Datasets:** Some data may have sensitivities that prevent it from being ingested into Adobe Experience Platform. In these scenarios, Federated Audience Composition provides a path to query these datasets in aggregate (for example, creating an audience without copying raw underlying data), for Real-Time CDP or Journey Optimizer workflows.
- **Use cases:** Use case requirements should dictate whether data should be ingested through Federated Audience

Composition. A use case that requires ad hoc access to enterprise data (like sending a one-time email to event registrants) can be accomplished by creating a federated audience of those registrants. However, if there's a need to regularly communicate with this audience and nurture them into a cross-sell campaign, ingesting their event registrations as attributes associated with their profiles may be the better approach.

- **Latency requirements:** Federated Audience Composition is ideally suited for batch or scheduled access to enterprise data. This may be sufficient for most personalized customer experiences, but necessary data should be ingested or retained when real-time audience qualification and activation is required. For example, on-site personalization based on actions taken in-session requires the availability of relevant customer attributes in Real-Time CDP. It might be preferable to ingest rather than federate attributes that are frequently needed to power these use cases..

Latency requirements

Does the customer experience associated with the dataset require personalization in minutes or less, with ingested data immediately available? Or is a longer timeframe to access data via federation sufficient?



Use cases

Does the use case require ad hoc access to enterprise data that can be federated? Or does the use case require regular and ongoing communication better suited for ingestion?

Datasets

For experience use cases, should the entire dataset be ingested into Adobe Experience Platform, or will an aggregated audience view via federation suffice?

5. Advantages of combining data ingestion with data federation.

Advantages of combining data ingestion with data federation.

Federated Audience Composition's ability to federate or ingest data offers several major advantages over data consolidation and data federation on their own.

1. Unified customer view and reduced data silos

Ingesting data from multiple sources allows Real-Time CDP to create a comprehensive view of the customer. This helps boost audience segmentation capabilities and improves orchestration in Journey Optimizer. Ingestion also allows customer data that lives across multiple sources to be accessible in near real time. Adding federation to ingestion workflows allows businesses to enrich Adobe Experience Platform audiences with audiences composed of enterprise data, improving their unified customer view and complementing their warehouse investments. This leads to a more holistic understanding of the customer's behavior, preferences, and interactions with the business.

2. Data privacy and compliance

Adobe Experience Platform provides a patented data governance framework to manage ingested data with labeling, policy creation, and enforcement. Federated data access enables adherence to data privacy regulations by allowing businesses to keep sensitive customer information localized. This makes it easier to comply with regional data protection laws and allows businesses to work with aggregates of

enterprise data (for example, by building an audience of customers with a credit score above a certain threshold) without ingesting unnecessary or sensitive underlying data (like individual credit scores).

3. Scalability and agility

Adobe Experience Platform helps businesses scale efficiently by tapping into data that's distributed across various systems. With Federated Audience Composition, businesses have additional flexibility to adapt to changing needs and to seamlessly incorporate new data sources without maintaining a copy.

4. Enhanced personalization

By accessing data across different channels and systems, Adobe Experience Platform can build and maintain audiences for highly personalized experiences. This personalization is crucial for effective marketing, customer engagement, and retention efforts. Federated Audience Composition allows businesses with Real-Time CDP and Journey Optimizer to create audiences directly from enterprise datasets and enrich their audiences in Adobe Experience Platform with enterprise data. This provides additional attributes and qualifiers to deliver more relevant customer experiences.

5. Control costs

A joint approach with both ingestion and federation can help marketing and IT teams control their warehouse utilization costs. Ingesting data that needs to be accessed frequently for customer experience workflows can reduce the number of credits used for accessing warehouse data directly. Additionally, ad hoc or scheduled queries ensure that data processing is run at an optimal cadence for the business.

By combining data federation with data ingestion, businesses can:

- Enhance customer experiences by delivering in-the-moment personalization.
- Drive sustainable growth.
- Gain a competitive advantage.

How do teams benefit from Federated Audience Composition?

Marketing and IT teams gain several other advantages when using Federated Audience Composition.

Marketing teams can:

- Create and enrich audiences and profiles with critical and actionable enterprise data for effective personalization.
- Utilize a marketer-friendly UI to access relevant audience data needed for marketing activities.
- Immediately access essential audience data for cross-channel, in-the-moment experiences.
- The ability to access and consolidate marketing audiences in a single system for consistent and streamlined activation.

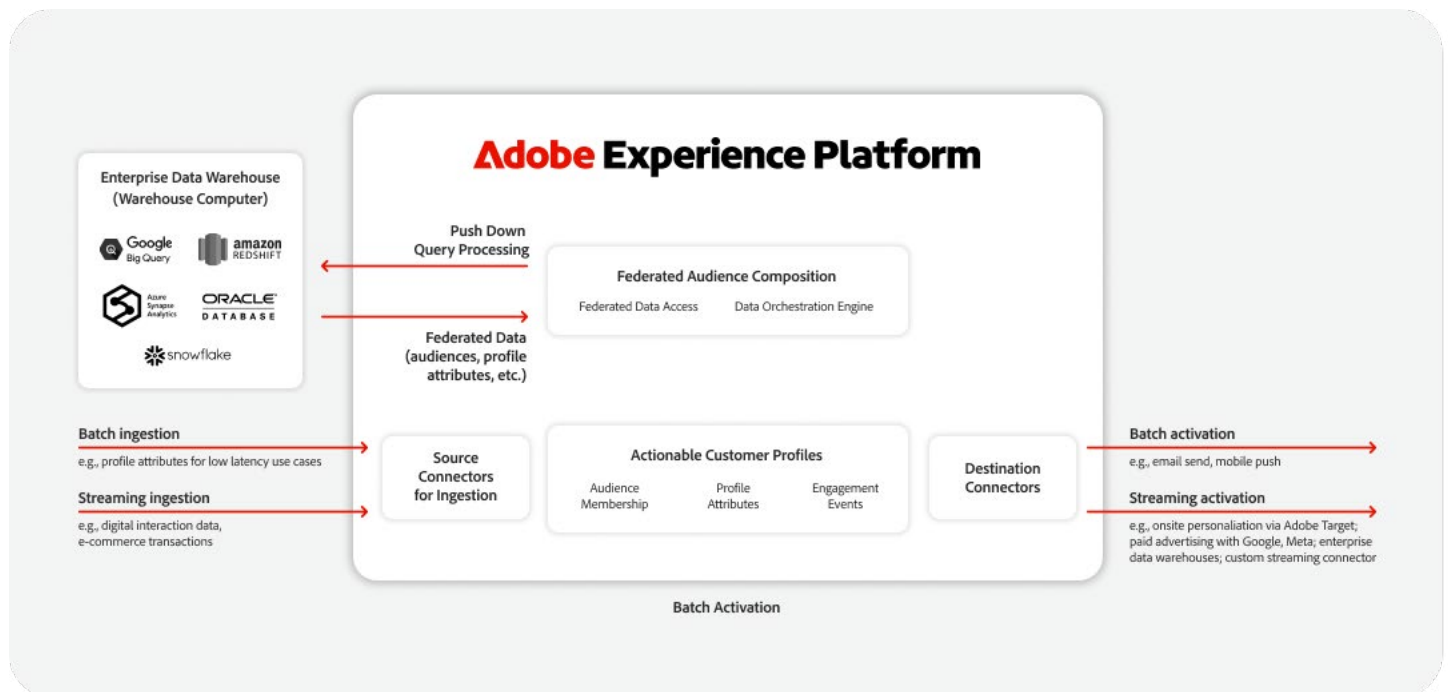
Data engineering teams can:

- Leverage data warehouse investment to power marketing use cases.
- Utilize only the data that is needed to meet low-latency use case requirements.
- Address privacy and security needs by keeping sensitive data in enterprise systems.
- Go beyond reverse ETL and coordinate data in a single system for multi-channel activation.

6. High-level architecture and flow.

High-level architecture and flow.

One of the primary benefits of Federated Audience Composition is the ability for businesses to use the data in their warehouse without maintaining a copy.



The end-to-end workflow within Federated Audience Composition can be broken down into four key tasks:

- 1. Data integration:** Bringing together data from various sources.
- 2. Data modeling:** Designing and creating data models or schemas that define the structure, relationships, and constraints of the data.
- 3. Data transformation:** Applying data manipulation techniques to modify the format, structure, or values of data elements to make them compatible or suitable for specific analyses or applications in the composition canvas.
- 4. Data usage:** Use of workflow capabilities to create, orchestrate, and build Adobe Experience Platform audiences.

Conclusion

Federated Audience Composition provides new pathways and expanded access to create audiences from enterprise data warehouses to power brand-initiated and in-the-moment customer experiences. A combination of federated and ingested approaches gives businesses the flexibility to compose enterprise data as needed to address business challenges while reducing data duplication. By leveraging the strengths of data consolidation and data federation to power customer experiences, businesses can reduce data silos, support compliance, scale efficiently, improve personalization, and manage costs.

Marketing and technical teams benefit from workflow efficiencies and the ability to address data movement challenges while also meeting and exceeding customer experience expectations.

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