

salesforce

Explore Cross-Cloud Engagement Data Models

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 @salesforcedocs

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EXPLORE CROSS-CLOUD ENGAGEMENT DATA MODELS

Improve customer loyalty by establishing a common profile for each customer across Marketing Cloud, B2C Commerce, and core platform clouds. Determine the best system of record for each type of customer data to take advantage of out-of-the-box cloud integrations.



Get Started



Explore system architecture related to this solution.

- [B2C Industry Blueprint](#)
- [B2C Reference Architecture](#)
- [B2C Solution Architectures](#)



Take Trailhead modules related to this solution.

- [Salesforce Solution Kits: Quick Look](#)
- [Customer 360 Guide for Retail: Quick Look](#)
- [Customer 360 Guides: Quick Look](#)

The Explore Cross-Cloud Engagement Data Models solution kit helps you:

- Explore concepts for modeling data on the platform.
- Map customer business requirements and definitions to product capabilities.
- Optimize your cross-cloud implementations to achieve a 360-degree view of your customers.

Establishing the best systems of record and data integration patterns for your organization helps you:

- Apply best-in-class marketing tools for commerce transactional messaging.
- Surface email tracking and engagement views for customer service agents.

Required Products

- Commerce Cloud ([SFRA](#) or [SiteGenesis](#))
- [Marketing Cloud Enterprise 2.0](#)
- Sales Cloud, Service Cloud, or Experience Cloud
- [Marketing Cloud Connect](#)

Optional Products

- [Salesforce Privacy Center](#)
- [Data Cloud](#)
- [Mulesoft](#)

Implement This Solution

[Understand Salesforce Systems of Record](#)

Optimize your cross-cloud integrations by understanding which cloud is the ideal system of record for which piece of data.

[Integrate Service Cloud, Marketing Cloud, and Commerce Cloud with Integration Reference Implementations](#)

Reference implementations allow actions to be made in one cloud based on activity in another cloud.

[Understand the Flow of Data](#)

Marketing Cloud, Salesforce B2C Commerce, and Service Cloud can be connected both with Connectors and other API-based integrations.

[Build a Common B2C Person Model](#)

Salesforce lets you build a model of a person based on person accounts, on accounts and contacts together, or on a combination of accounts, contacts, and person accounts.

[Use Person Model Considerations](#)

Many objects and record types in Sales Cloud and Service Cloud include data to define people. Each of these objects has a slightly different primary purpose.

Understand Salesforce Systems of Record

Optimize your cross-cloud integrations by understanding which cloud is the ideal system of record for which piece of data.

In Salesforce, each cloud contains information about customers, but the information can differ between clouds. Determining the correct system of record for each piece of data is an important step to building highly functional cross-cloud solutions.

We recommend storing primary attributes about your customer in a core platform cloud, such as Service Cloud or Sales Cloud. Experience Cloud is also a possibility.

When Should a System Be Authoritative?

Consider these recommendations for the role of each cloud when establishing data source authority in your multi-cloud implementations.

Sales Cloud, Service Cloud, and Experience Cloud

- Primary person attributes, such as name, address, birthday, phone, and email
- Consent and compliance preferences
- Case management information, including transactions, history, and sentiment
- Recency snapshot for orders and engagement
- Subscription preference information across all channels
- Order history

Marketing Cloud

- Lifetime engagement tracking and history
- Suppression lists
- Subscription preferences
- Other data for personalization or segmentation
- Customer journey flow
- Counsel and compliance preferences

B2C Commerce

- Ecommerce transactions, including order records
- Customer product affinity
- Customer group membership aligned with ecommerce strategies
- Promotion eligibility

Mulesoft

Mulesoft provides a widely used integration platform for connecting applications, data, and devices in the cloud and on the premises. Mulesoft also provides a powerful tool to transform data with [DataWeave](#). Discover and use prebuilt assets from the MuleSoft ecosystem or use Mulesoft's Anypoint Exchange to save, share, and reuse internal best practices. [MuleSoft Accelerator for Retail](#) includes pre-built APIs, connectors, integration templates, and reference architecture to enable retail IT teams to jumpstart digital transformation initiatives.

Heroku

While Heroku isn't a system of record, it can tightly integrate with core platform clouds such as Sales Cloud and Service Cloud. Heroku can aggregate data such as lifetime and historic records from several source systems when building customer applications at scale. Use cases include data lakes, pre-processing, and transforming records for other clouds. As a result, Heroku as a platform can *host* various systems of records.

Related Content



Review this solution's use case and purpose.

- [Explore Cross-Cloud Engagement Data Models](#) on page 1



Take the next steps in this implementation.

- [Integrate Service Cloud, Marketing Cloud, and Commerce Cloud with Integration Reference Implementations](#)
- [Understand the Flow of Data](#)

Integrate Service Cloud, Marketing Cloud, and Commerce Cloud with Integration Reference Implementations

Reference implementations allow actions to be made in one cloud based on activity in another cloud.

To integrate these clouds, rely on the contact record ID as a common key.

General Information about Integration Reference Implementations

- Plan your implementation as you would any other B2C Commerce feature by collecting requirements, capturing work tasks, and making task estimates.
- The reference implementations provide reusable code to accelerate point-to-point integrations between B2C Commerce and Marketing Cloud or Service Cloud.
- In general, don't use the b2c-crm-sync reference implementation as a way to initially load the data.
- To ensure back and forth data flows, pay attention to implementation considerations around primary keys between clouds. Marketing Cloud Connect requires the Contact ID in Service Cloud to be the primary subscriber and contact key.
- Reference implementations are developer-enablement frameworks that accelerate cross-cloud integration by providing code, configuration, and implementation patterns.
- Reference implementations support a core set of use cases that can extend to support other customer-driven use cases.
- Reference implementations require customization and configuration in Marketing Cloud and B2C Commerce. The B2C Commerce storefront requires customization as part of the integration.
- Implementation and validation require operational and administrative experience with Marketing Cloud.

Primary IDs for People

Out-of-the-box, point-to-point cross-cloud integrations:

- Use the Sales Cloud and Service Cloud contact record ID as the primary ID across the Salesforce platform.
- Marketing Cloud has a contact key in Contact Builder designed to be the cross-channel customer ID. The customer creates this ID whenever they define an audience. It happens when they configure data synchronization in Marketing Cloud Connect or use Journey Builder integrations with Sales Cloud or Service Cloud.
- Email Studio (email) and Mobile Connect (SMS) register subscriber keys for their respective channels. Those applications use contact keys and subscriber keys for subscription management and identifying contacts for consent and compliance.
- In B2C Commerce, CustomerID is the system-generated ID for a customer, whereas Customer.Profile.customerNo is the number that identifies customers.

Key considerations:

- Avoid using email addresses, SMS, or other channel addresses as the contact key in Marketing Cloud.
- To simplify consent, compliance, and the General Data Protection Regulation (GDPR) logical model, use a Salesforce record ID as a single unique identifier. This identifier applies across channels and clouds.
- Marketing Cloud Connect uses the contact record ID from Sales Cloud or Service Cloud to return email tracking data back into CRM.
- Set up the B2C Commerce Customer record with the Salesforce ContactID. The b2c-crm-sync reference implementation includes built-in patterns to help with this process.
- Using a Salesforce contact record ID simplifies integration with Experience Cloud and B2C Commerce.
- If your system doesn't require Marketing Cloud Connect functionality, you can use an external customer ID across all clouds.

Related Content



Review earlier steps in this solution.

- [Understand Salesforce Systems of Record](#)

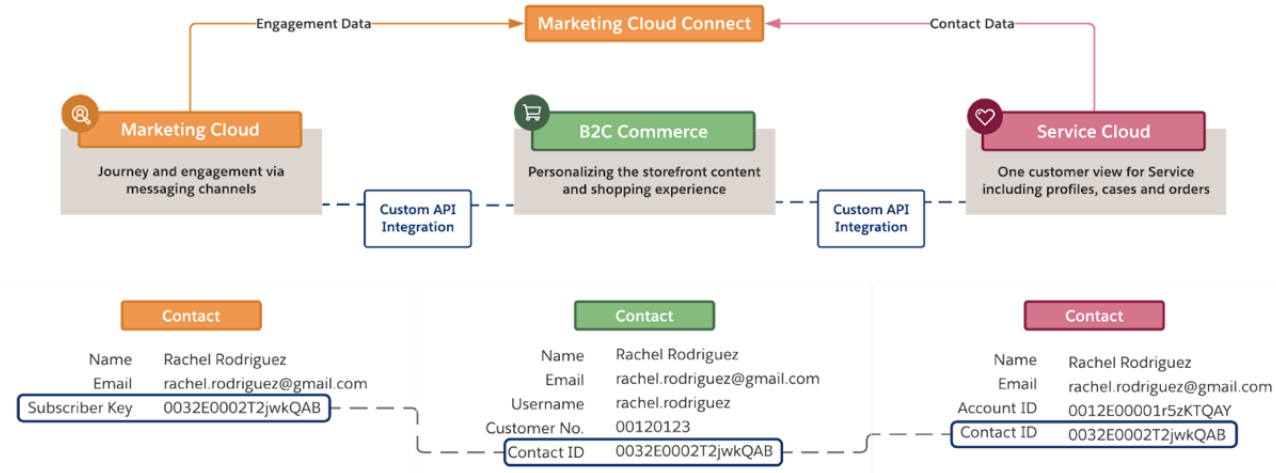


Take the next steps in this implementation.

- [Understand the Flow of Data](#)
- [Build a Common B2C Person Model](#)
- [Use Person Model Considerations](#)

Understand the Flow of Data

Marketing Cloud, Salesforce B2C Commerce, and Service Cloud can be connected both with Connectors and other API-based integrations.



Commerce Cloud to Marketing Cloud Integration Reference Implementation

- Engages customers via [transactional messaging](#) and personalized journeys
- Manages customer subscription preferences via the storefront
- Delivers [personalized product recommendations](#) via email messaging
- Recaptures lost revenue via [abandoned cart and browse](#)

Marketing Cloud Connect (Connector Product)

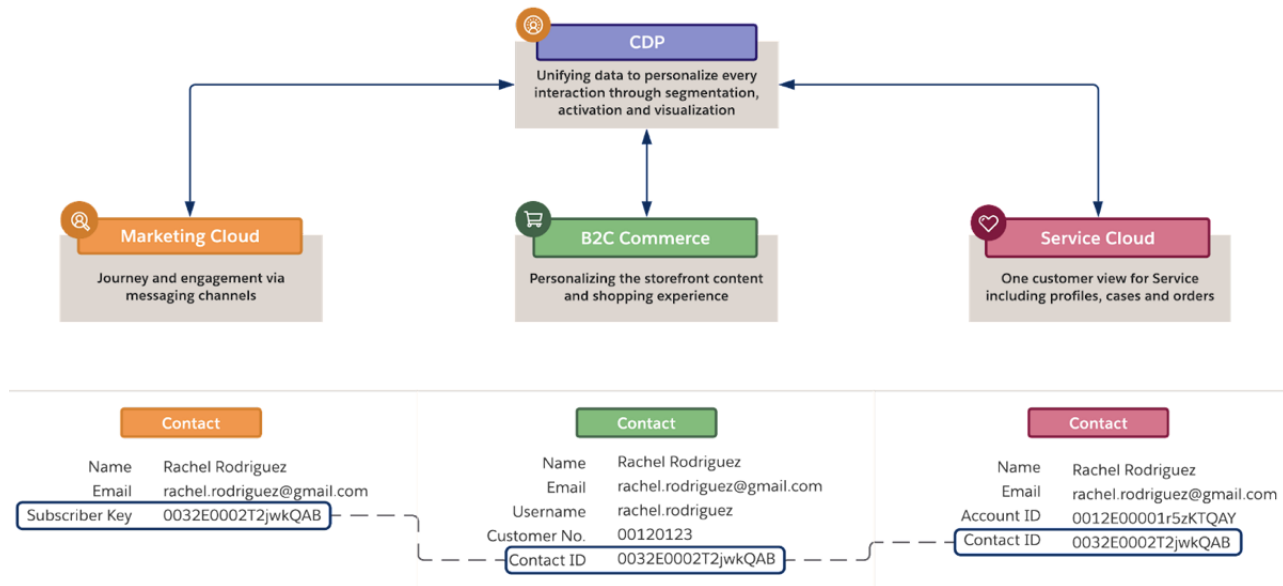
- Provides configurable options for replicating Service Cloud [contact, lead, and user data \(including related objects\)](#) to Marketing Cloud
- Integrates [Journey Builder](#) directly with Sales Cloud and Service Cloud records. The connector triggers journeys based on record creation and updates. It provides options for updating and creating data in Salesforce from within a journey
- Exposes [customer engagement](#) data and history to Sales Cloud and Service Cloud. Users view counts of actions, such as opening emails or clicking a contact record page.

Commerce to Service Cloud Integration Reference Implementation

- Deflects high-volume and low-complexity cases with self-service
- Provides agents with updated customer profile data

- Turns service interactions into upsell opportunities by placing an [order on behalf of a customer](#)
- Drives genuine [conversations with shoppers](#) in their preferred channels

Alternative Flow of Data



Data Cloud

- Extract using [Starter Data Bundles](#) or [Data Extensions](#).
- The Order Bundle starter bundle creates one or more data streams to flow data from a [B2C Commerce](#) source. The data bundle automatically creates and maps data streams.
- Starter data bundles are also available for the [Salesforce CRM](#) source, including Sales Cloud, Service Cloud, and Loyalty Cloud. These bundles automatically map the data source objects to the data model objects (DMO) and establish DMO relationships that improve your segmentation results.
- Use [Segmentation](#) to break down your data into useful segments to understand, target, and analyze your customers. Create segments on any entities from your data model and then publish them on a chosen schedule or as needed.
- Activation is the process that materializes and publishes a segment to activation platforms, including [Marketing Cloud](#), [B2C Commerce](#), and Service Cloud.

Related Content

←

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→

Take the next steps in this implementation.

- [Build a Common B2C Person Model](#)

- [Use Person Model Considerations](#)

Build a Common B2C Person Model

Salesforce lets you build a model of a person based on person accounts, on accounts and contacts together, or on a combination of accounts, contacts, and person accounts.

Modeling B2C Customers in Salesforce Using Person Accounts

Benefits of [person accounts](#):

- Combines account and contact object attributes to create an independent person without having to attach them directly to an existing business account.
- Works with core object functionality.
- Handles the mixing of B2B and B2C relationships.
- Connects a person account to a business contact via contact relationship.

Key considerations:

- Reverting from person accounts isn't available.
- You manage contact security at the account level.
- The record appears only in account search results.
- Merging regular contacts and person accounts isn't possible.
- Merging two site members that are person accounts isn't possible.
- Sometimes person accounts require more data storage.
- Some AppExchange offerings aren't compatible with person accounts.

Integration Considerations Around Person Accounts

While not obvious from the detail page, a person account is actually a combination of two records into one view:

- Contact Record - Account:PersonContactID

This contact record associated with the person account contains attributes about the person. The case-insensitive, 18-digit CRM record ID for this contact record acts as the unique ID for the person across the platform behind the scenes. You connect with people, not accounts.

- Account Record - Account:ID

This account object presents itself in Salesforce as a combination of contact and account fields. In the data model, the Account object (and the Contact object) contains a boolean flag that determines whether the record is a Person Account.

Use extra fields on the underlying contact record when it's data related to people and on the account record when it's account data. Use "No Role-Hierarchy-Based" access control.

Person Accounts and Marketing Cloud Connect

[Marketing Cloud Connect](#) has several ways to create records, including Journey Builder integrations. With both of these interfaces, Marketing Cloud Connect maps keys to contact, lead, and user records. No other objects create Marketing Cloud contacts.

Implications for person accounts:

- When you sync the contact object to Marketing Cloud, it brings both records:
 - {Business Account} Contacts (isPersonAccount = "False")
 - {Person Account} Contacts (isPersonAccount = "True")
- When you sync the account object to Marketing Cloud, it maps to the related contact record. Marketing Cloud Connect respects Salesforce object dependencies. It brings both records:
 - {Business} Accounts (isPersonAccount = "False")
 - {Person} Accounts (isPersonAccount = "True")
- Marketing Cloud Connect creates Marketing Cloud contact (subscriber) records for all Salesforce records. Avoid creating an audience in which the Marketing Cloud contact key points to a Salesforce account record ID. This duplicates and fragments Marketing Cloud contacts.

Related Content



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- [Understand Salesforce Systems of Record](#)
- [Integrate Service Cloud, Marketing Cloud, and Commerce Cloud with Integration Reference Implementations](#)
- [Understand the Flow of Data](#)



Take the next steps in this implementation.

- [Use Person Model Considerations](#)

Use Person Model Considerations

Many objects and record types in Sales Cloud and Service Cloud include data to define people. Each of these objects has a slightly different primary purpose.

Individual Object

For compliance use cases, Individual helps aggregate compliance flags for data related to people in Sales Cloud and Service Cloud.

- Use this record's boolean flags to capture master privacy-related preferences. To build out any customer consent and compliance solutions, use the preferences across the Salesforce platform.
- Design solutions to use these flags. Changing the boolean setting doesn't propagate those changes across the platform.

For use cases involving an individual record and multiple records related to people in Salesforce:

- Establishing relationships between contacts and leads on an individual record is a manual assignment effort.

- Consider associating an individual record with one contact or lead. Those records usually include channel address information, along with other personally identifiable information. Because Marketing Cloud Connect creates a unique contact for each record, using lead and contact fractures the view. It's more difficult to manage data this way.
- You can associate one lead, contact, or user with only one individual record.

When synced to the Marketing Cloud, individual records link to the Marketing Cloud Contact Model through one of the three "human" record types. Individual record IDs aren't subscriber keys.

Managing Consent and Privacy

Proper data management helps ensure that businesses comply with legal regulations and avoid penalties.

Sales Cloud and Service Cloud offer the opportunity to extend your org with [Consent Management objects](#) that track and store certain data privacy preferences.

Salesforce Privacy Center uses a managed package and Heroku to securely store your Salesforce data.

- To obfuscate customer data, Privacy Center can replace your customer's data with either random characters, known as anonymization, or mock data, known as pseudonymization.
- Privacy Center can also retain customer data by putting it into storage using Heroku Connect. While this data is retained it can't be processed or accessed by other users.
- Privacy Center can completely delete a user's record and any related information from your Salesforce org. Unlike retained data, these records are permanently deleted after the Recycle Bin clears, either through manual clearance by a user or after the 15-day expiration limit.

Leads

Lead records include details about people who are interested in your products and services. Salesforce stores lead details in lead records that sales reps can convert to contact records.

- Lead status is an engagement-level attribute. This record reflects the degree to which the person engages with your company or brand.
- Some leads never convert to contacts. Archive or clean up those unqualified leads.
- The lead conversion threshold, in which the lead becomes a contact, is arbitrary and varies by customer. Each company has different engagement methods and definitions for converting leads to contacts.
- Lead conversion requires careful planning around consent and compliance use cases. People don't know or care about how you model their data. But they expect your company to track and manage their consent for them.

Leads create a standalone Marketing Cloud Contact record.

- In Marketing Cloud, a lead is an actual contact and not a transitional record. You manage profiles, preferences, consent, and compliance for each of them, independent of any converted contact record.
- Merging and converting leads isn't available in Marketing Cloud. A lead is a legitimate contact in Marketing Cloud even after a lead conversion in Sales Cloud or Service Cloud. It's important to manage preferences and consent processes associated with the new contact in a cross-cloud sense to account for the legacy Marketing Cloud lead.
- Leads in Sales Cloud and Service Cloud help with contact record data quality, but they can damage the data quality in cross-cloud implementations.

Learn the advantages of using the Contact object instead of the lead object.

- Contacts can include multiple record types to simulate the lead conversion process, similar to opportunity stages for an opportunity record. Account for other possible lead integration points and include an archival strategy.

- A stable customer ID lets you establish one customer ID that spans all Salesforce clouds. This ID helps with any use cases that require a lifetime 360 view of the customer.
- To support each phase of the contact's journey using Lightning Experience, group and present field sets with different custom attributes based on type.
- Stable record IDs retain the contact ID when the type changes. Custom flows create records or propagation of duplicate keys across the platform, fracturing the contact view.
- You can associate contact records with multiple accounts, including person and business accounts.
- Access Control creates a combination of page layouts, sharing rules, and custom profiles to control the type and attribute visibility. For example, users who engage with only one type of contact can minimize record clutter in the platform.
- Alternatively, you can use the Lead object to bring in, deduplicate, and assign the data related to people to your model. This process converts the lead to a contact record before using cross-cloud capabilities.

Accounts and Contacts: Modeling People in Salesforce

- Contacts are typically linked to accounts, which allows you to model the structure of a household or organization. Modeling people with contacts and accounts has several benefits.
- Original structure offered by Salesforce
- Supports B2B and B2C
- Maps to standard Salesforce structure
- Simplicity of reporting and data migration
- Supports third-party integration

It's important to consider:

- Data storage implications
- Definition of household (entity)
- Integration of both objects
- Data integrity (triggers to enforce consistency between household and contact)
- Lead conversion implications

Integration Considerations Around the Contact Object

Standard Account and Contact Relationship

- The primary account relationship that a contact has informs its security model and ownership settings.
- You need sufficient information about a contact, typically B2C, to populate an account object.
- Secondary relationships can relate to multiple accounts.

Alternate Contact and Account Relationships

- Linking consumer contacts to a bucket account, such as brand, geolocation, and product line, is easier for smaller data volumes. This relationship has performance limitations, including data skew, when assigning more than 10,000 people to an account.
- Avoid using an orphan contact model unless you have no other option because it limits security, ownership, reporting, and AppExchange packages.

Consider setting up a type of contact record to mimic a lead engagement funnel.

- Using record types on the Contact object restricts views and workflows for contact records by type. You can improve this situation by using the Lead and Contact objects, but one contact record is best for cross-cloud data quality.

Avoid duplicating Sales Cloud and Service Cloud customer records before using Marketing Cloud Connect.

- Establish a day-zero practice across all systems. Avoid using duplicate records in processes such as legacy capture forms via Web Collect and Web-to-Lead.
- Avoid pick-a-winner duplication solutions in Sales Cloud and Service Cloud after integration. This solution doesn't address per-channel subscription preferences or compliance requests and fractures engagement history in cross-cloud implementations.
- If you want to manage storage and indexing issues, consider implementing an archival solution. Instead of deleting the records, move them into big objects or off the platform. This process retains the original record ID, which helps reconnect with cross-cloud data stores.

Converting leads to contacts creates duplicate keys in Marketing Cloud.

- To avoid duplicate records, avoid synchronizing or sending messages to leads via Marketing Cloud Connect.
- Using leads to capture data from external systems creates duplicate records. Check them against contacts in Sales Cloud and Service Cloud. Convert or merge them to synchronize with Marketing Cloud.

Bring only quality contacts into Marketing Cloud.

- Avoid using the contact delete framework in Marketing Cloud to delete duplicate records or remove low-quality contact records to solve billing challenges.
- Work with Salesforce Customer Support to delete these records for one-time cleanup efforts or use the contacts delete framework. Limit calls to fewer than one million records at a time.

When You Already Have Marketing Cloud and Add Service Cloud

Many of our customers have Marketing Cloud and want to add Sales Cloud or Service Cloud. So they establish a Marketing Cloud contact key that isn't a Salesforce record ID. But our guidance for cross-cloud data flow requires the use of a Salesforce record ID. In this case, these customers have two paths forward.

1. Create contact records in Marketing Cloud for each person using the Salesforce record ID.



Note: This path causes duplicate contact records. Each record has its own subscription management, consent, compliance requirements, and fragmented engagement history. This solution is acceptable only if you manage the legacy contact records through an archival process.

2. Engage Marketing Cloud Professional Services to perform a subscriber key migration. This path replaces subscriber and contact keys in Marketing Cloud with the new Salesforce contact record ID. The replacement happens in all Marketing Cloud system tables and sendable data extensions. After the migration, all Marketing Cloud contacts include Salesforce contact record ID keys. You manage subscriptions and compliance with one view of engagement history and one record.



Note: A subscriber key migration causes an email sending outage while the migration is under way. Plan accordingly with your services team. When using Marketing Cloud Connect, complete the subscriber key migration before synchronizing the contact, lead, or user records. Otherwise, your migration can fail.

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