Connection 5G

Training Scenario

Connection 5G *(fictitious customer)*

Key Strategic Initiatives:

01 Intelligent Customer Acquisition

02 Omni-channel Personalization

03 Customer Driven Marketing

04 Cost Optimized Spend

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Business Use Cases

Connection 5G

Drive New Product Orders (Acquisition)

Find all customers who have visited an iPhone 14 product page, and no order exists for that device or that device is not currently an active line on the customer's account

CHANNELS

Facebook, Google Customer Match (1st Party Advertising)

Increase Ultimate Plan Adoption (Upsell)

Find all customer who have a total billing data usage in the last 6 months > 140GB, have a rolling 6-month average monthly data usage >= 20GB and are not on the ultimate phone plan

CHANNELS

Direct Mail, Facebook (1st Party Advertising)

Order Cancellation Outreach (Winback)

Outreach to all customers who have both ordered and cancelled within a week and advertise similar products, offer coupon, etc.

CHANNEL

Email

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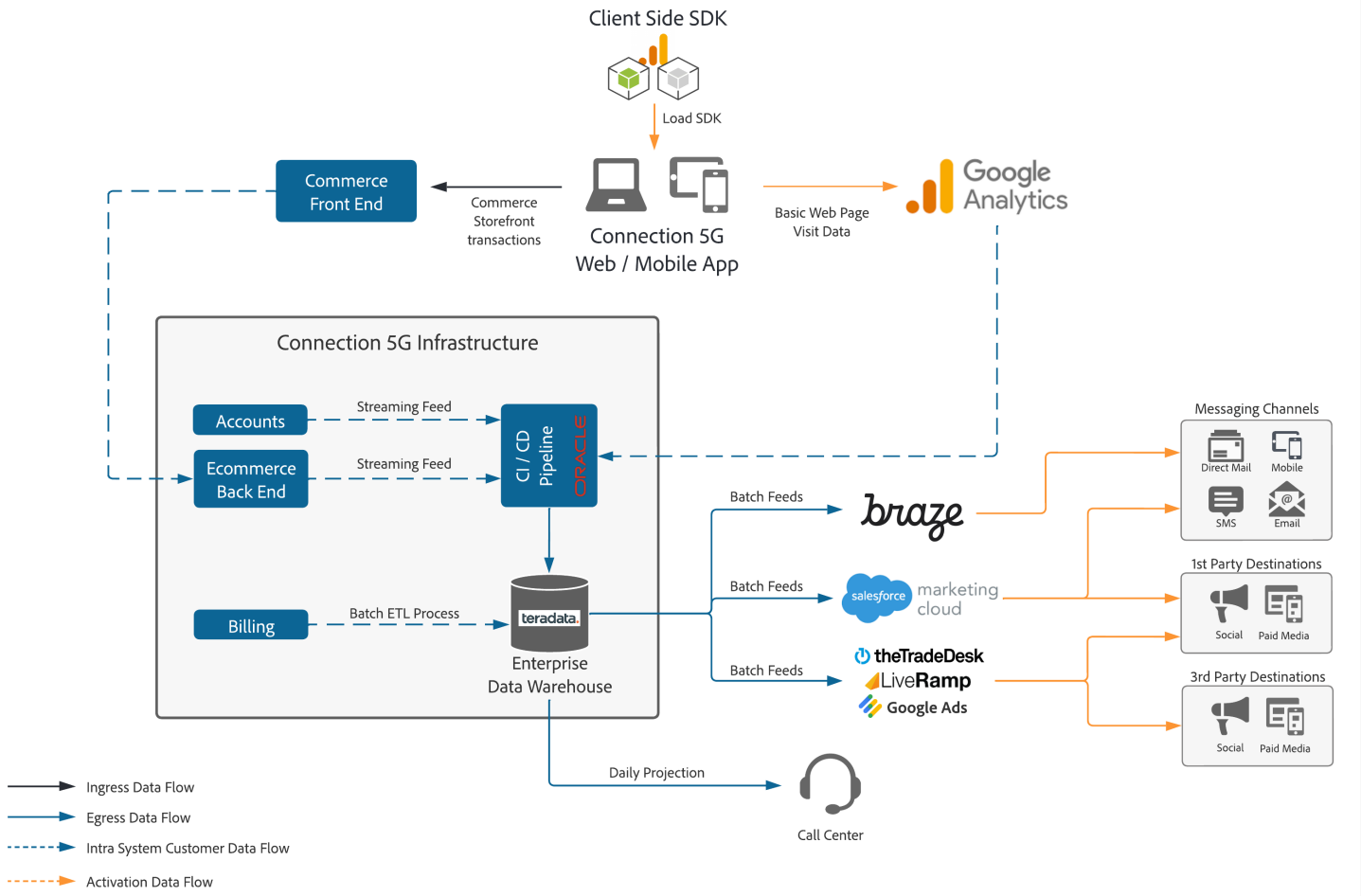
System Architecture Challenges

Connection 5G



Omni-Channel Personalization is impossible to achieve due to a multitude of marketing applications having their own customer conversations with their own data

System Scalability & Reliability are a concern as IT teams are constantly being asked to expose more data from the warehouse to the various marketing applications within the marketing stack while balancing the demands for analytical and data science workloads

Data Governance & Privacy are key priorities with all systems moving forward. There is a critical need to centralize all governance and privacy for internal teams and marketing teams when working with the customer data

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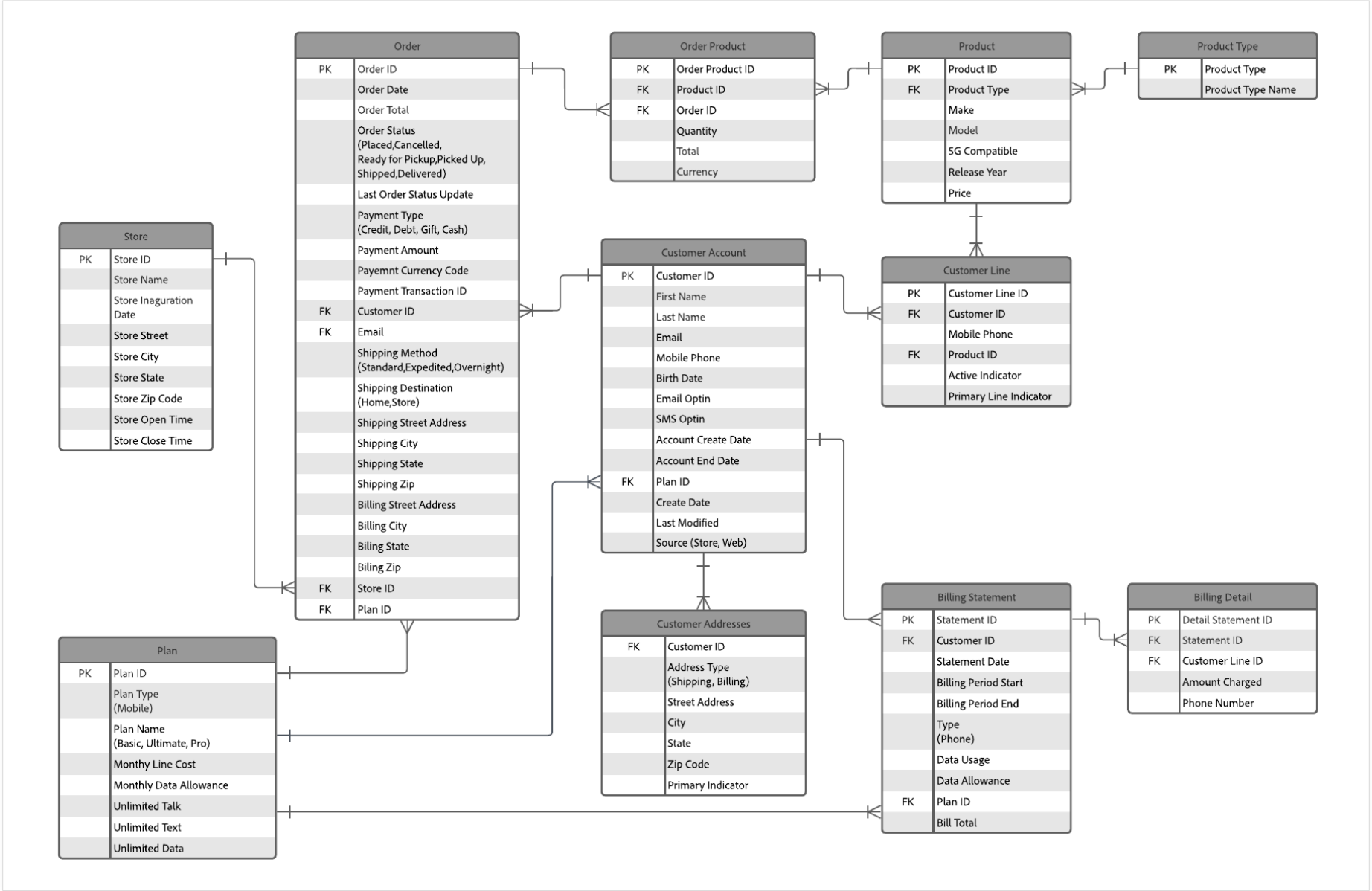
Data Warehouse ERD

Connection 5G



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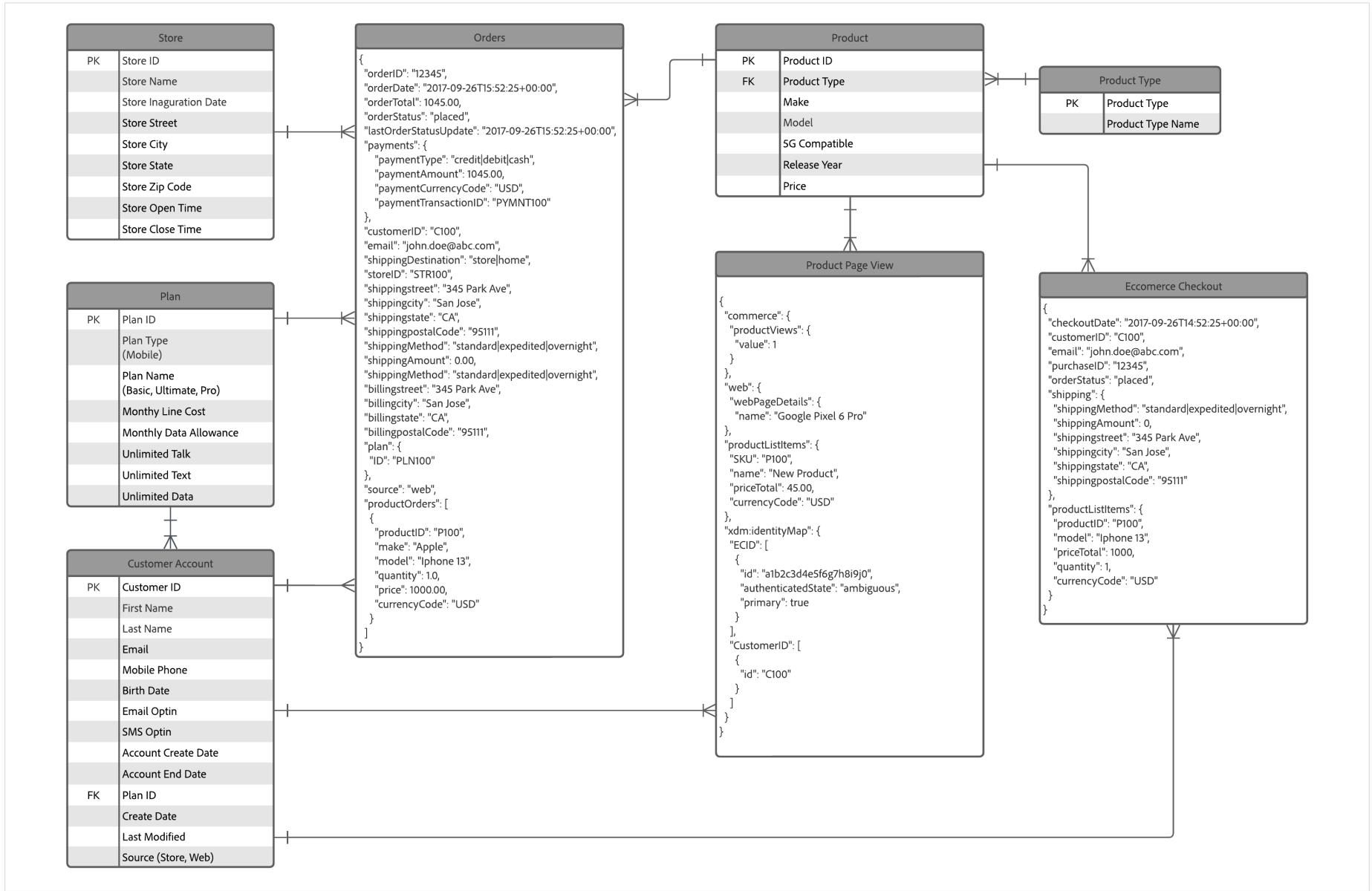
Streaming ERD

Connection 5G



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Streaming System Payloads

Connection 5G

Orders


```
{
 "orderID": "12345",
 "orderDate": "2017-09-26T15:52:25+00:00",
 "orderTotal": 1045.00,
 "orderStatus": "placed",
 "lastOrderStatusUpdate": "2017-09-26T15:52:25+00:00",
 "payments": {
    "paymentType": "credit|debit|cash",
    "paymentAmount": 1045.00,
    "paymentCurrencyCode": "USD",
    "paymentTransactionID": "PYMNT100"
 },
 "customerID": "C100",
 "email": "john.doe@abc.com",
 "shippingDestination": "store|home",
 "storeID": "STR100",
 "shippingstreet": "345 Park Ave",
 "shippingcity": "San Jose",
 "shippingstate": "CA",
 "shippingpostalCode": "95111",
 "shippingMethod": "standard|expedited|overnight",
 "shippingAmount": 0.00,
 "shippingMethod": "standard|expedited|overnight",
 "billingstreet": "345 Park Ave",
 "billingcity": "San Jose",
 "billingstate": "CA",
 "billingpostalCode": "95111",
 "plan": {
  "ID": "PLN100"
 },
 "source": "web",
 "productOrders": [
  {
   "productID": "P100",
   "make": "Apple",
   "model": "Iphone 13",
   "quantity": 1.0,
   "price": 1000.00,
   "currencyCode": "USD"
  }
 ]
}
```


Order Note:
Data is computed and streamed from the back end of the commerce system as statuses change. Applies to all in-store and online orders

Product Page View


```
{
 "commerce": {
  "productViews": {
   "value": 1
  }
 },
 "web": {
  "webPageDetails": {
   "name": "Google Pixel 6 Pro"
 },
 "productListItems": {
  "SKU": "P100",
  "name": "New Product",
  "priceTotal": 45.00,
  "currencyCode": "USD"
 },
 "xdm:identityMap": {
  "ECID": [
   {
    "id": "a1b2c3d4e5f6g7h8i9j0",
    "authenticatedState": "ambiguous",
    "primary": true
   }
  ],
  "CustomerID": [
   {
    "id": "C100"
   }
  ]
 }
}
```


Web Traffic Note:
Streaming data feed from the Adobe Web SDK

Eccomerce Checkout


```
{
 "checkoutDate": "2017-09-26T14:52:25+00:00",
 "customerID": "C100",
 "email": "john.doe@abc.com",
 "purchaseID": "12345",
 "orderStatus": "placed",
 "shipping": {
  "shippingMethod": "standard|expedited|overnight",
  "shippingAmount": 0,
  "shippingstreet": "345 Park Ave",
  "shippingcity": "San Jose",
  "shippingstate": "CA",
  "shippingpostalCode": "95111"
 },
 "productListItems": {
  "productID": "P100",
  "model": "Iphone 13",
  "priceTotal": 1000,
  "quantity": 1,
  "currencyCode": "USD"
 }
}
```


Ecom Checkout Note:
Streaming data feed from the ecommerce digital storefront for only online orders

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Connection 5G Orders…..Why are Two of Them?!

Connection 5G

Order Streaming Payload

Orders


```
{
 "orderID": "12345",
 "orderDate": "2017-09-26T15:52:25+00:00",
 "orderTotal": 1045.00,
 "orderStatus": "placed",
 "lastOrderStatusUpdate": "2017-09-26T15:52:25+00:00",
 "payments": {
    "paymentType": "credit|debit|cash",
    "paymentAmount": 1045.00,
    "paymentCurrencyCode": "USD",
    "paymentTransactionID": "PYMNT100"
 },
 "customerID": "C100",
 "email": "john.doe@abc.com",
 "shippingDestination": "store|home",
 "storeID": "STR100",
 "shippingstreet": "345 Park Ave",
 "shippingcity": "San Jose",
 "shippingstate": "CA",
 "shippingpostalCode": "95111",
 "shippingMethod": "standard|expedited|overnight",
 "shippingAmount": 0.00,
 "shippingMethod": "standard|expedited|overnight",
 "billingstreet": "345 Park Ave",
 "billingcity": "San Jose",
 "billingstate": "CA",
 "billingpostalCode": "95111",
 "plan": {
  "ID": "PLN100"
 },
 "source": "web",
 "productOrders": [
  {
    "productID": "P100",
    "make": "Apple",
    "model": "Iphone 13",
    "quantity": 1.0,
    "price": 1000.00,
    "currencyCode": "USD"
  }
 ]
}
```


Order Warehouse Schema

Order	
PK	Order ID
	Order Date
	Order Total
	Order Status (Placed,Cancelled, Ready for Pickup,Picked Up, Shipped,Delivered)
	Last Order Status Update
	Payment Type (Credit, Debt, Gift, Cash)
	Payment Amount
	Payemnt Currency Code
	Payment Transaction ID
FK	Customer ID
FK	Email
	Shipping Method (Standard,Expedited,Overnight)
	Shipping Destination (Home,Store)
	Shipping Street Address
	Shipping City
	Shipping State
	Shipping Zip
	Billing Street Address
	Billing City
	Biling State
	Biling Zip
FK	Store ID
FK	Plan ID

You may notice duplicate schemas related to Orders in the Connection 5G data architecture.

For Connection 5G orders, streaming data will be the primary source with the warehouse providing historical data only

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Data Architecture Entity Descriptions

Connection 5G

Source Entity name	Description	General Notes
Customer Account	Entity contains all the customers who bought a product or has subscribed for a plan with Connection 5G. This could also have guests who just purchased a phone and still have not enrolled for a phone plan	A customer ID is a unique key that is assigned at time of account creation. A customer can only ever have 1 account. Email address is always unique to a customer ID. The phone number listed on the account table is meant to be unique but has been found to be shared across various accounts
	A customer can be deactivated at some point but remain in the customer table even if they mark purchases.	
Orders (Streaming)	Streaming payload for orders placed by a guest or a customer for a plan or a product or both. Order events are always streamed in Connection 5G and are the preferred source for all order information.	Every order is recorded using an email address which must always be supplied at time of checkout or in the store purchases. Customer ID is optionally populated and typically only filled in if the customer is logged into their for online purchases or provides the account information at time of store checkout
Orders (Warehouse)	Contains all the historical order data of customers. This is maintained in the Customer Data Warehouse and gets a feed from the Order system. This data is always delayed compared to the Orders (streaming) feed.	
Product Page View	Streaming payload from the Experience Platform Web SDK which contains information about someone visiting a product page.	
Ecommerce Checkout	A single event exposed by Connection 5G IT teams from the ecommerce system for when someone performs a checkout. The event contains the relevant information needed for marketing teams to send transactional communications stating and order is placed.	Every checkout is recorded using an email address which must always be supplied at time of checkout or in the store purchases. Customer ID is optionally populated and typically only filled in if the customer is logged into their account at time of purchase or provides the information at time of store checkout.
Billing Statement	Contains the Billing statement generated for a customer on monthly basis. This is a summary of the bill for all the customer phone lines.	
Product	Contains all the products sold by Connection 5G. Example, phones and accessories	
Plan	Contains the service plans offered by the Connection 5G to its customers. Examples, Basic, Ultimate, Pro etc.	
Store	Contains all the stores where Connection 5G sells their products. It has information about store open and end dates, store address etc.	

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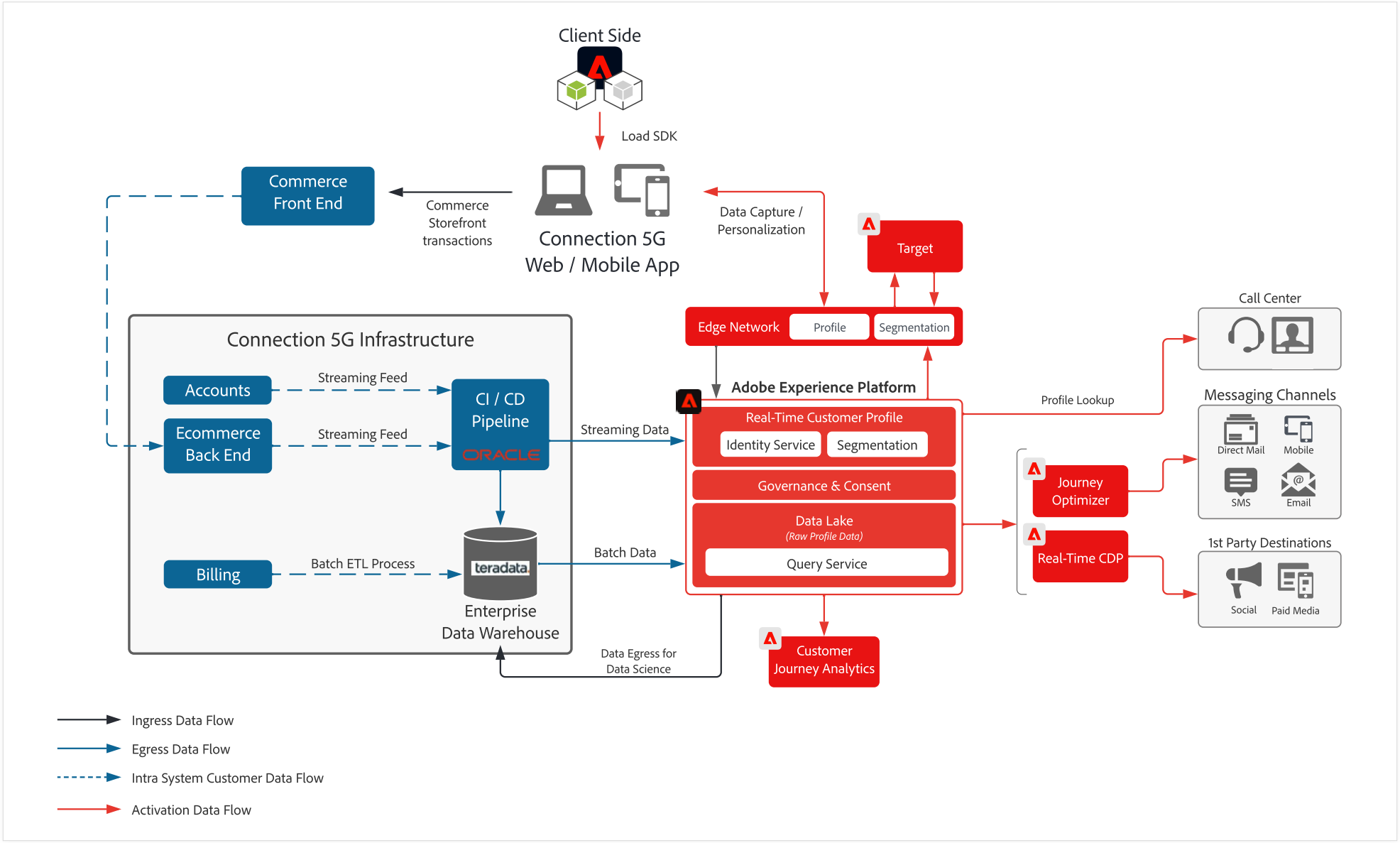
Proposed North Star Architecture

Connection 5G



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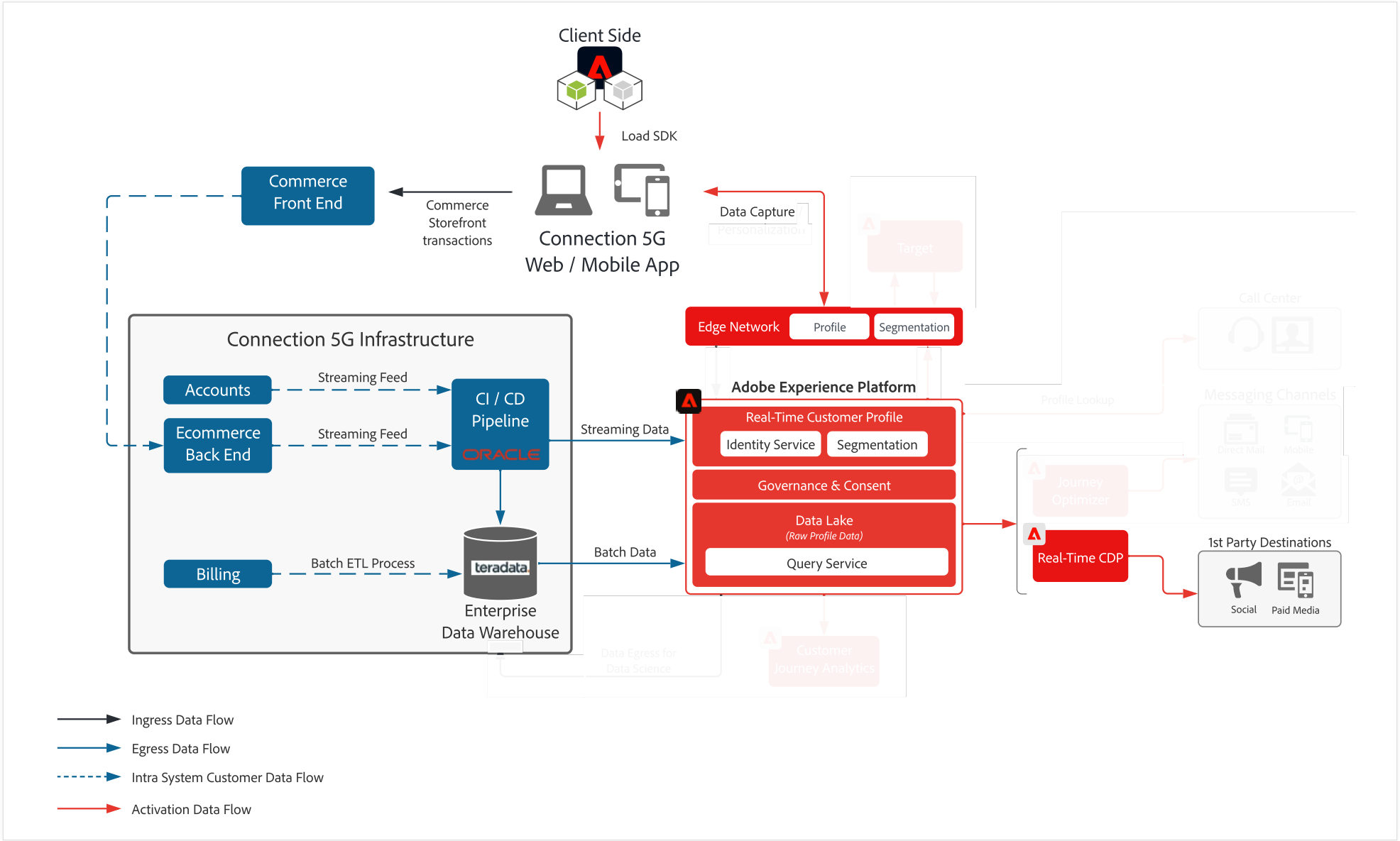
Phase 1 Focused Real-Time CDP

Connection 5G



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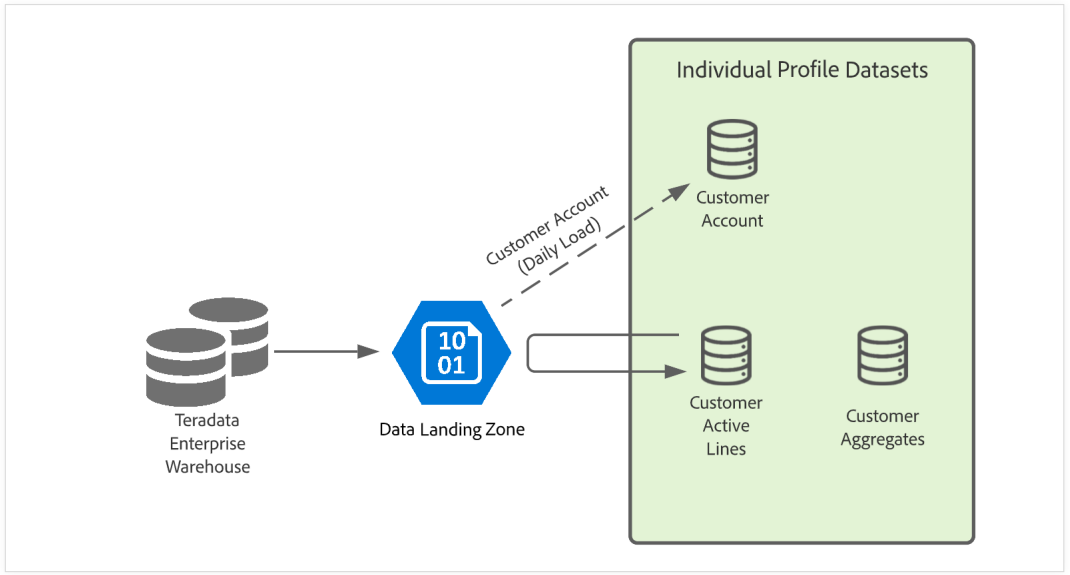
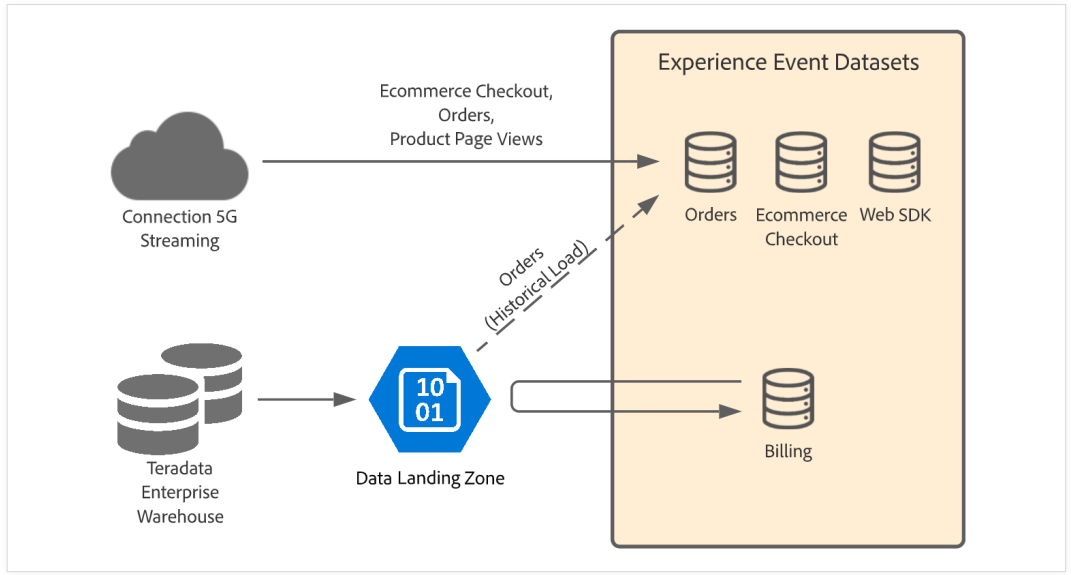
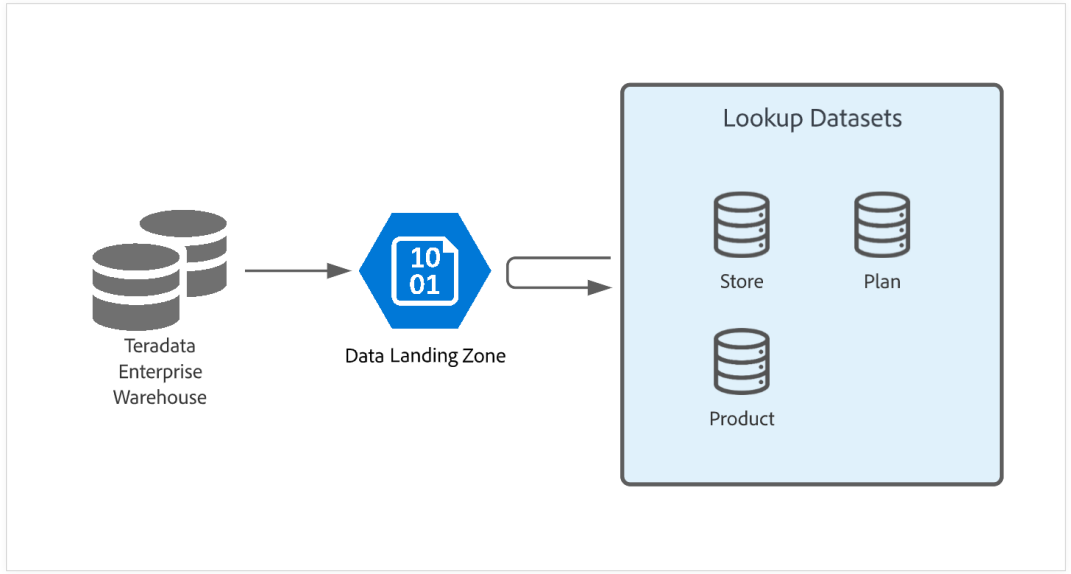
Proposed Data Pipeline Architecture







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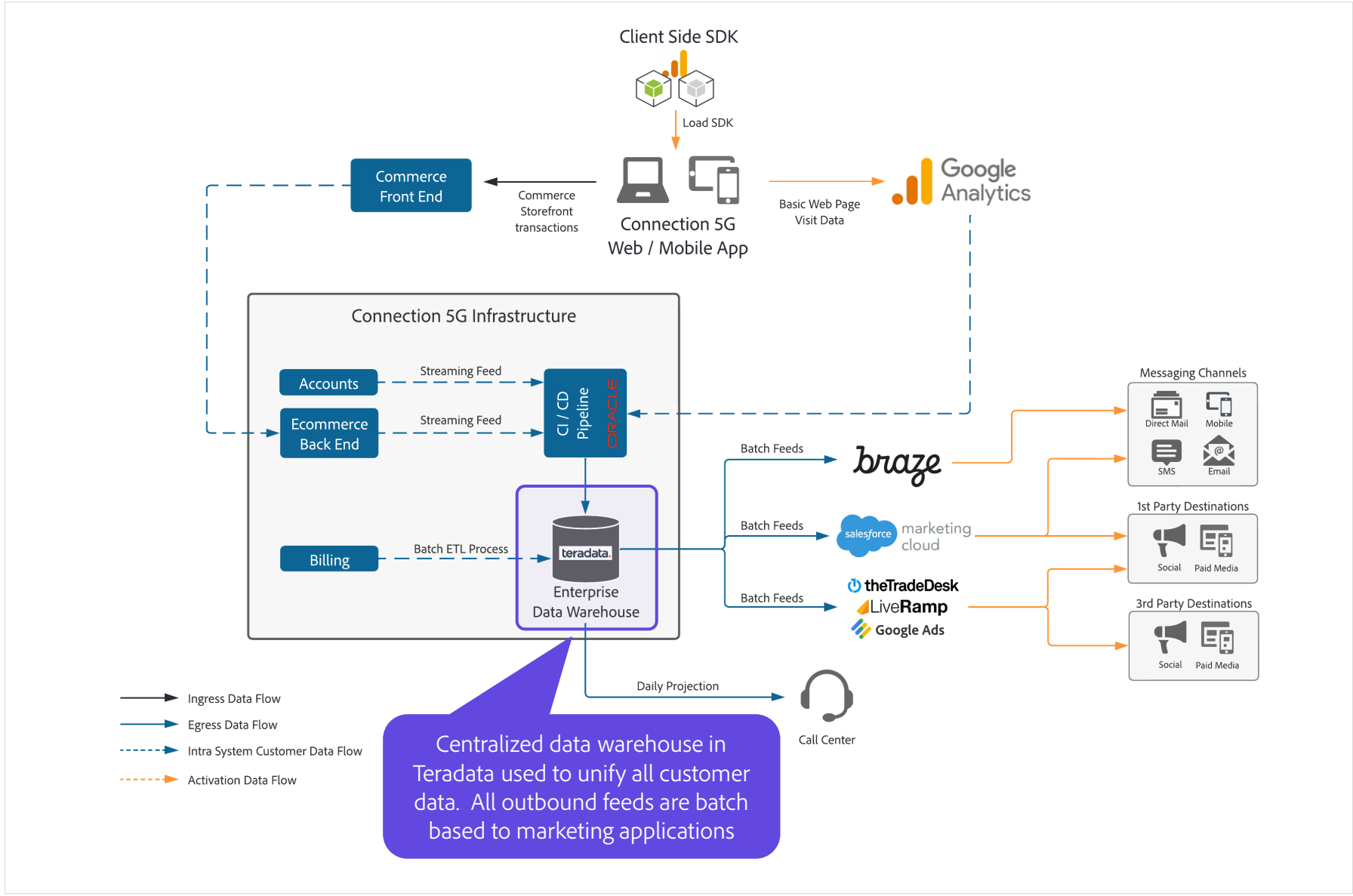
System Architecture Details

System Architecture Details

Connection 5G



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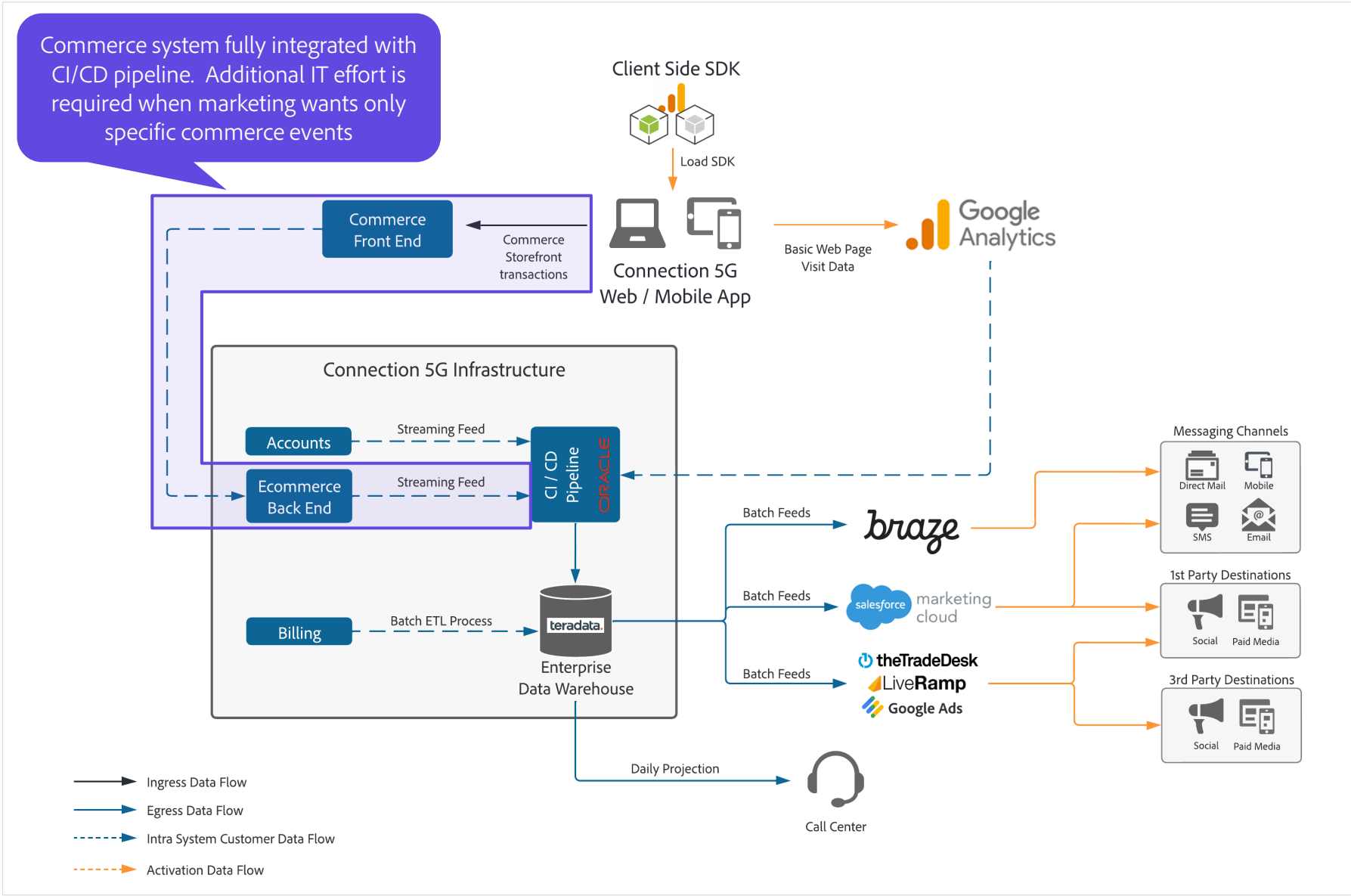

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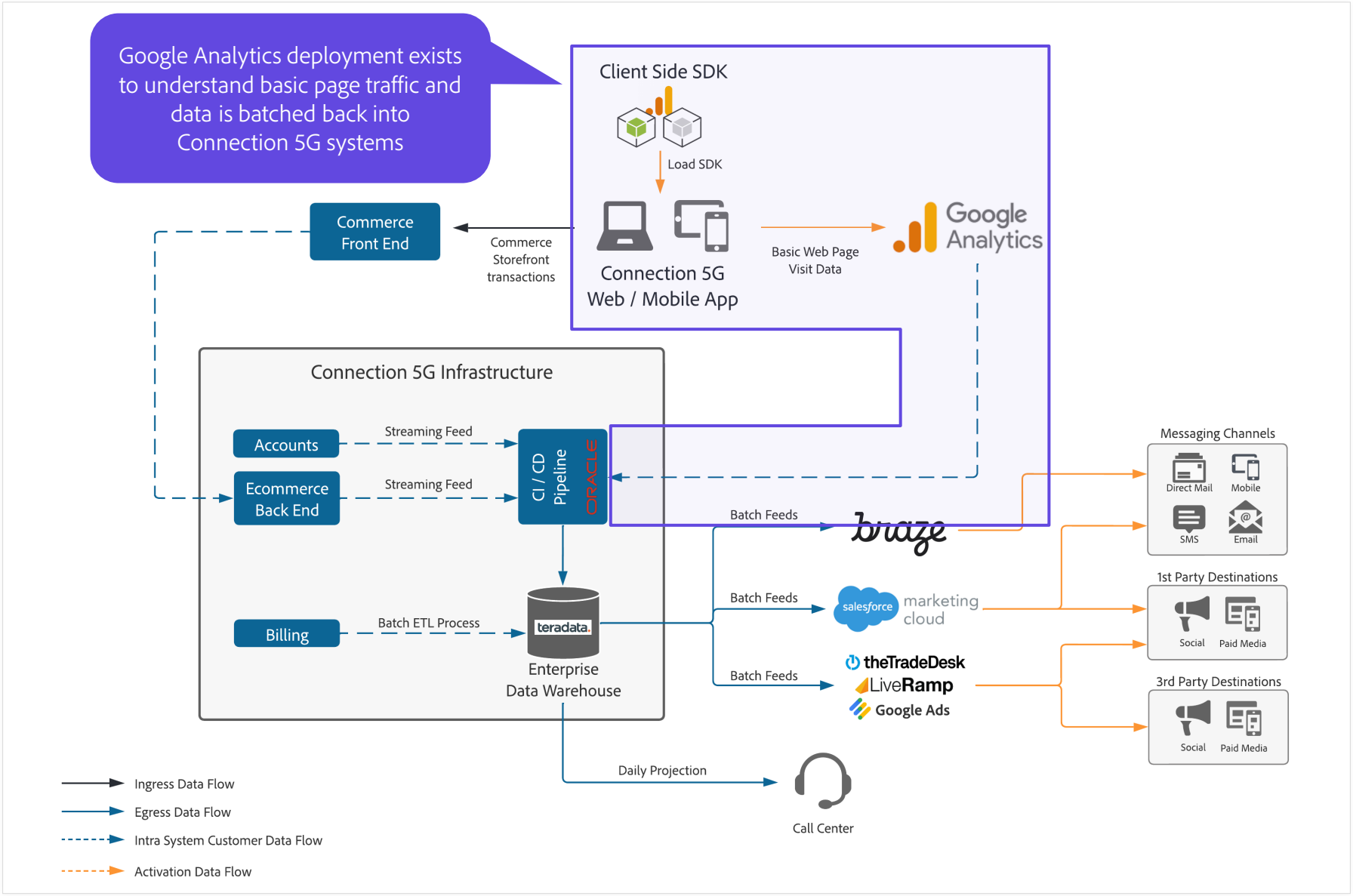

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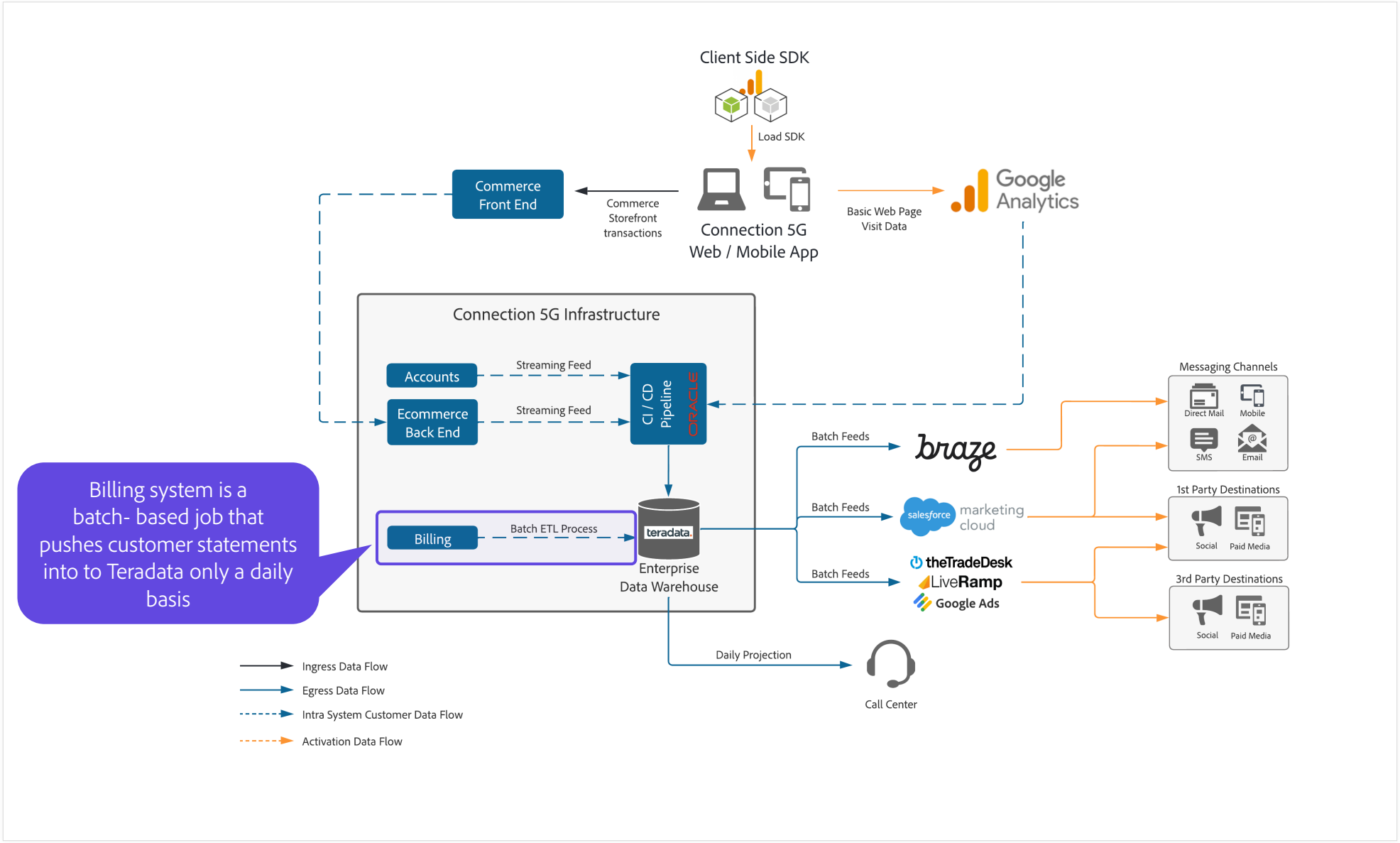

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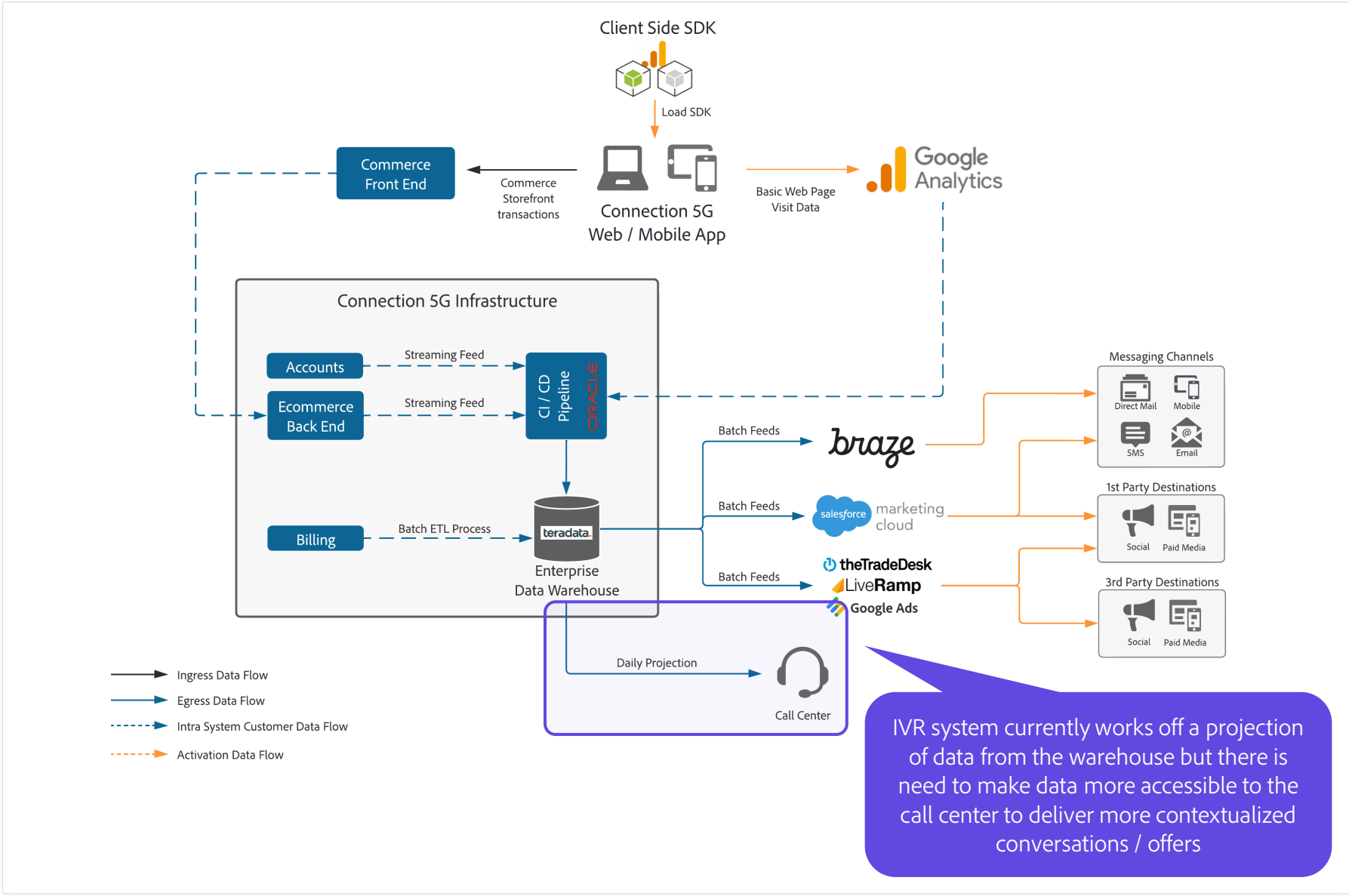

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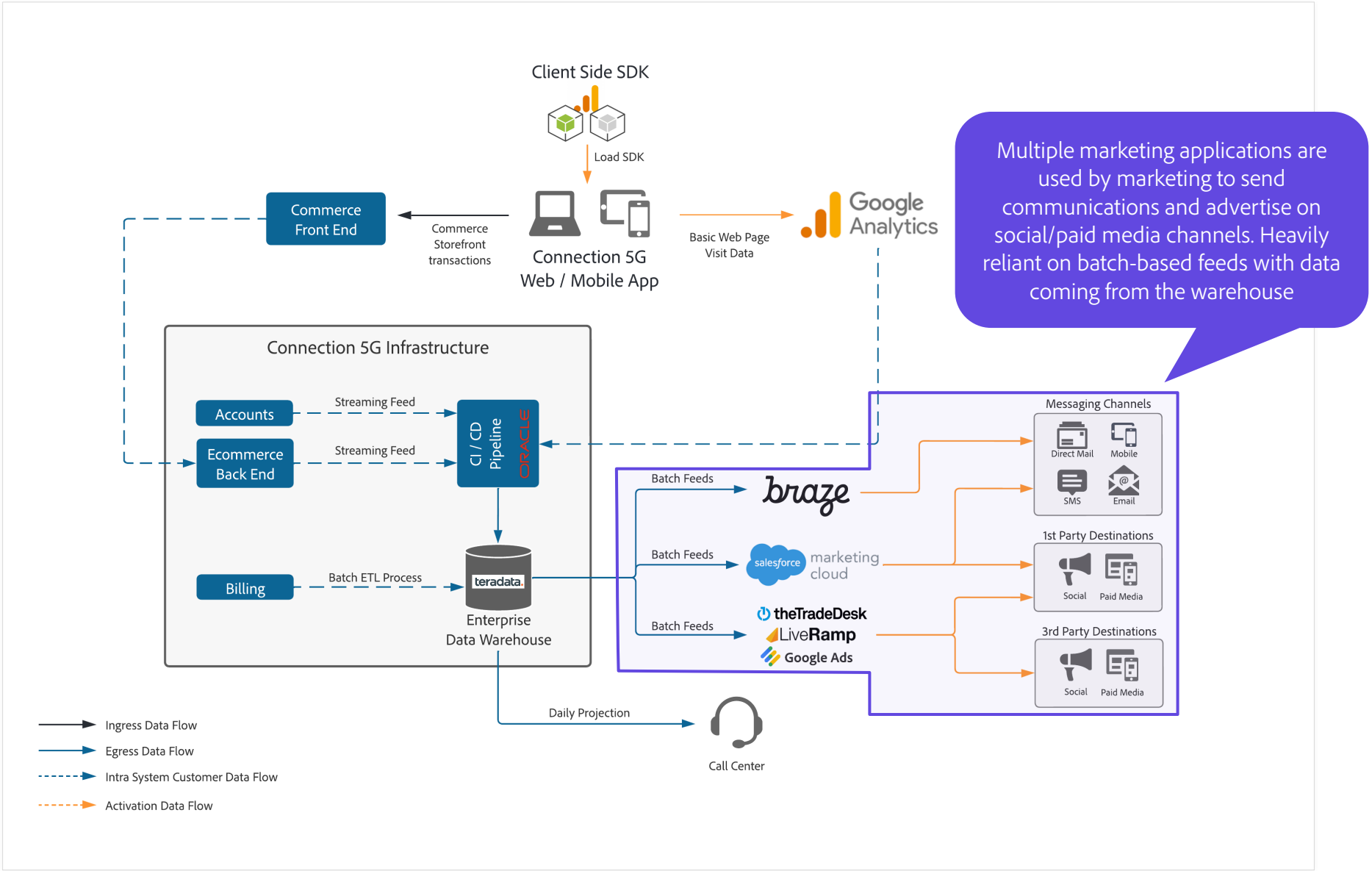

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