

**Mock POC**

**Order Processing**

**Multi Card Pack**

**"UltraFreedom"**

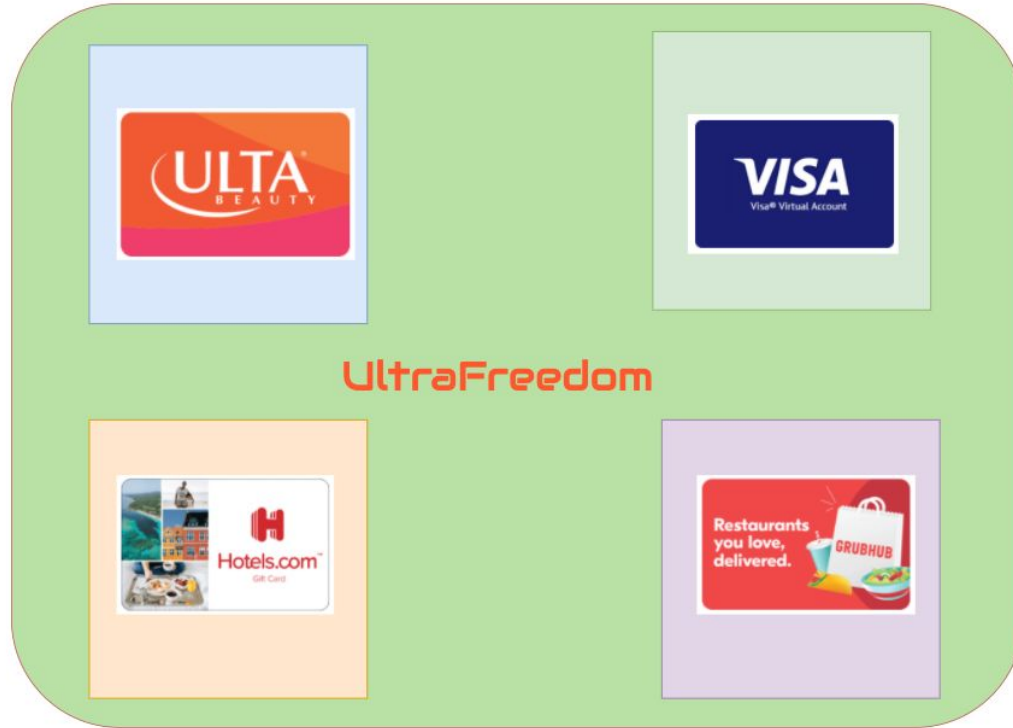
# Multi Card Pack

- Single Product that includes multiple cards from different Content Partners
- Example: **UltraFreedom** Package Product includes
  - Visa Virtual Card
  - ULTA Beauty
  - Hotel.com Gift Card
  - GrubHub Card
- **UltraFreedom** is Promoted/Recommended and searched by user as single product.
- User have seamless purchase experience for these multiple cards as single item purchase with **UltraFreedom**.

# Order Processing for **UltraFreedom**

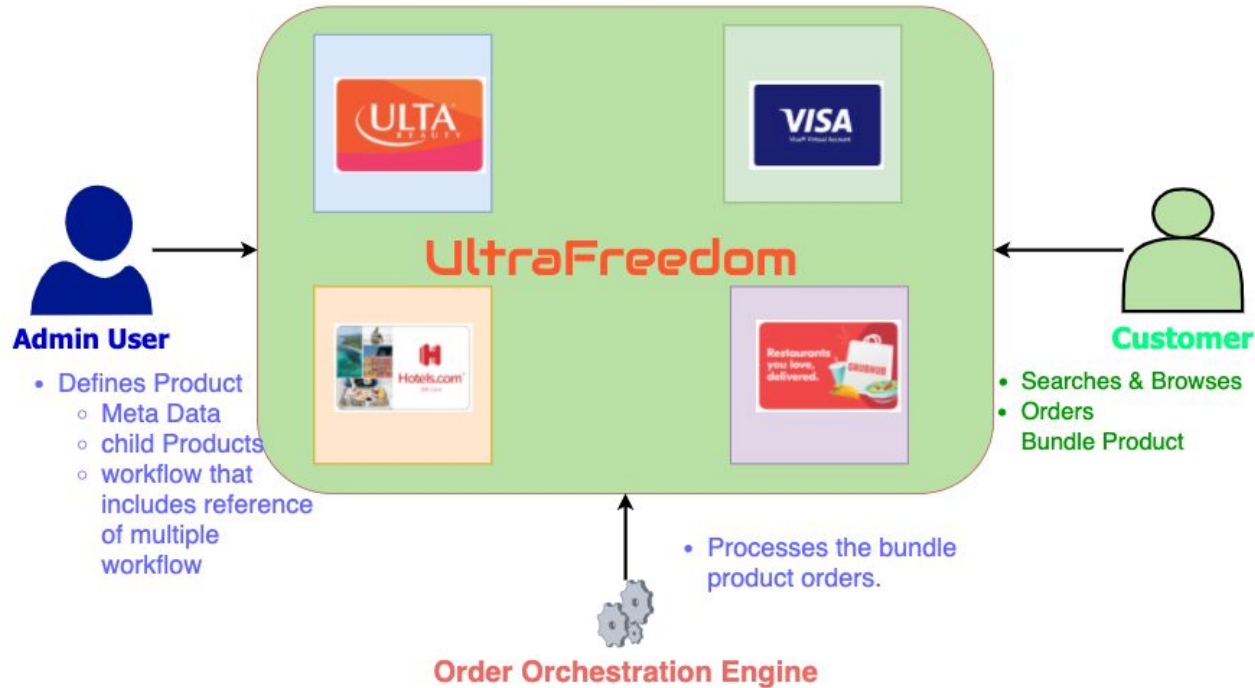
- User adds **UltraFreedom** as a single item in the cart.
- Single Order is created for this purchase.
- Internal Order Processing needs to handle multiple card request to different Content Partner Individually.
- **UltraFreedom** multiple count of digital cards.
- Digital Card is accessible through his GiftCard Account. User will also receive a consolidated mails containing all the digital cards in the bundle.

# Gift Card Pack



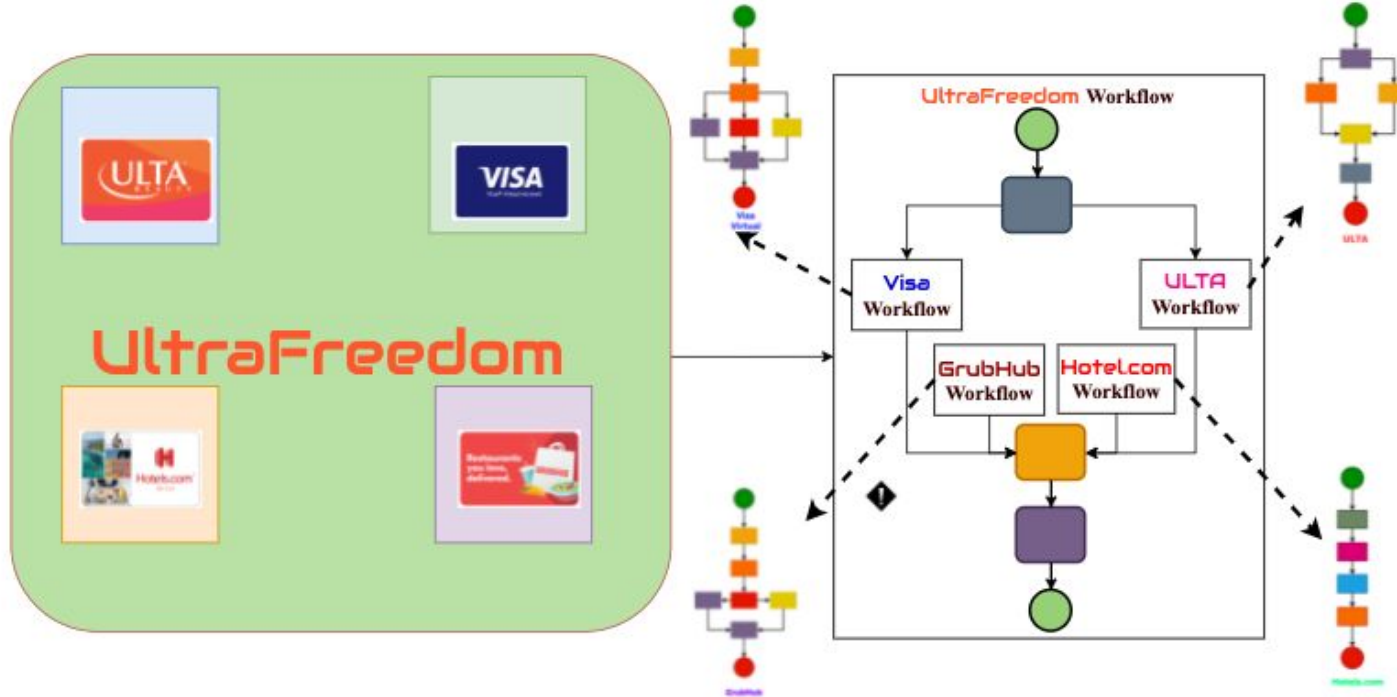
User to have **single product purchase** experience for multiple products(cards).

# Feature Users - Customer & Business User



- Business User/Users defines the product in product-catalog, also defines the workflow to support the order processing for this product.
- Customer Orders the bundled product as single item.
- Order Orchestration Engine process the order

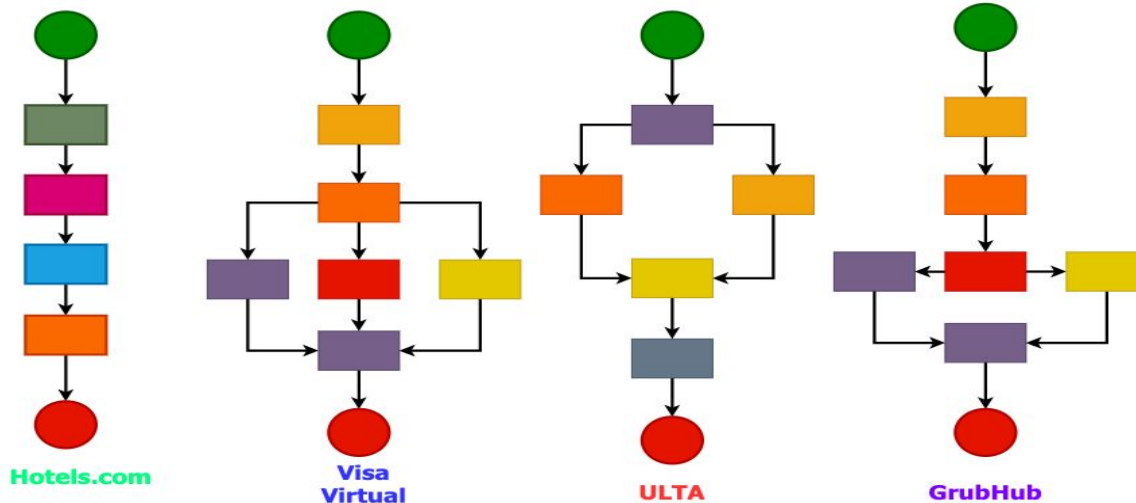
# Order Orchestration View (UltraFreedom)



- Gift Card Pack(Bundle Item) will have its unique workflow for order processing and ensures uniform abstraction with Ordinary Item.
- Though, Internally Workflow may consist one or more workflow- i.e. one for each card that is included in this bundle.

# Single Item - Multiple Processing

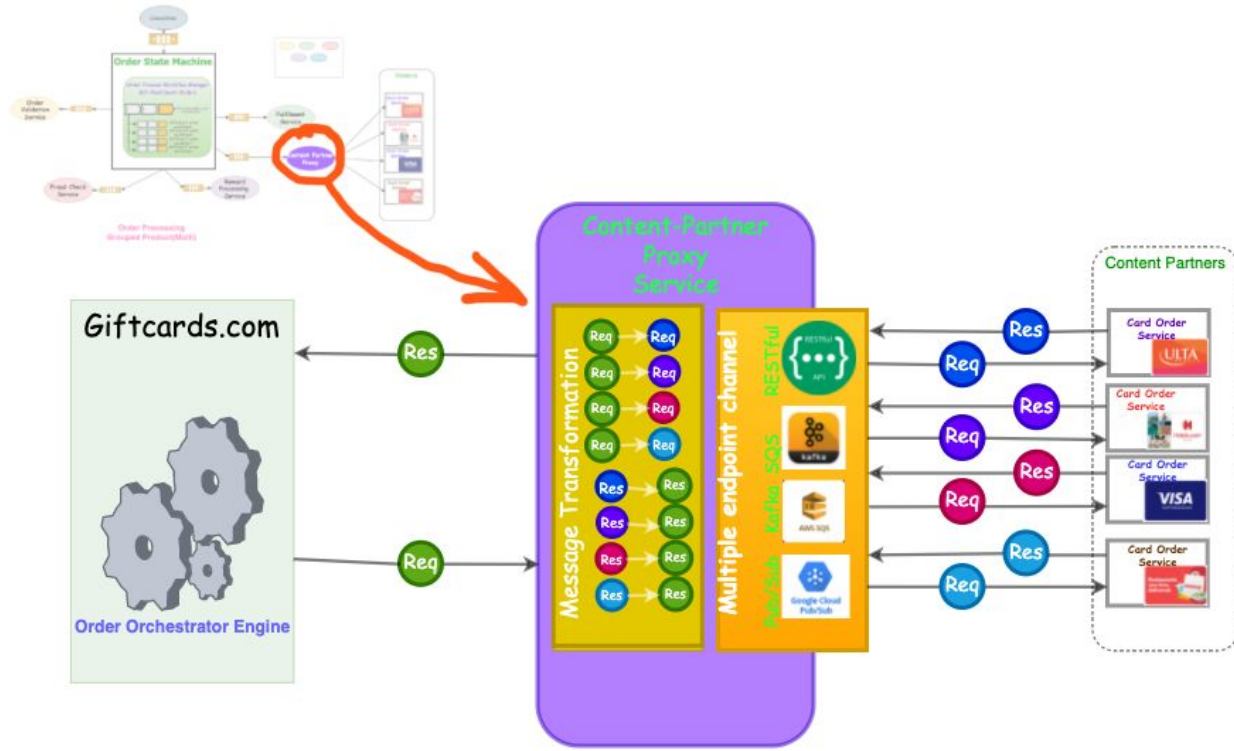
- Despite Seamless experience for end user to purchase cards from different Content Partner as single item, the system must internally handle the complexities arising with processing product from multiple Partners.



- Each card under the single pack has unique workflow defined for order processing.
- A Single Parent Workflow Definition should use the reference of them as child workflows
- Each child flow will execute independently and result will be collected and notified to main flow.

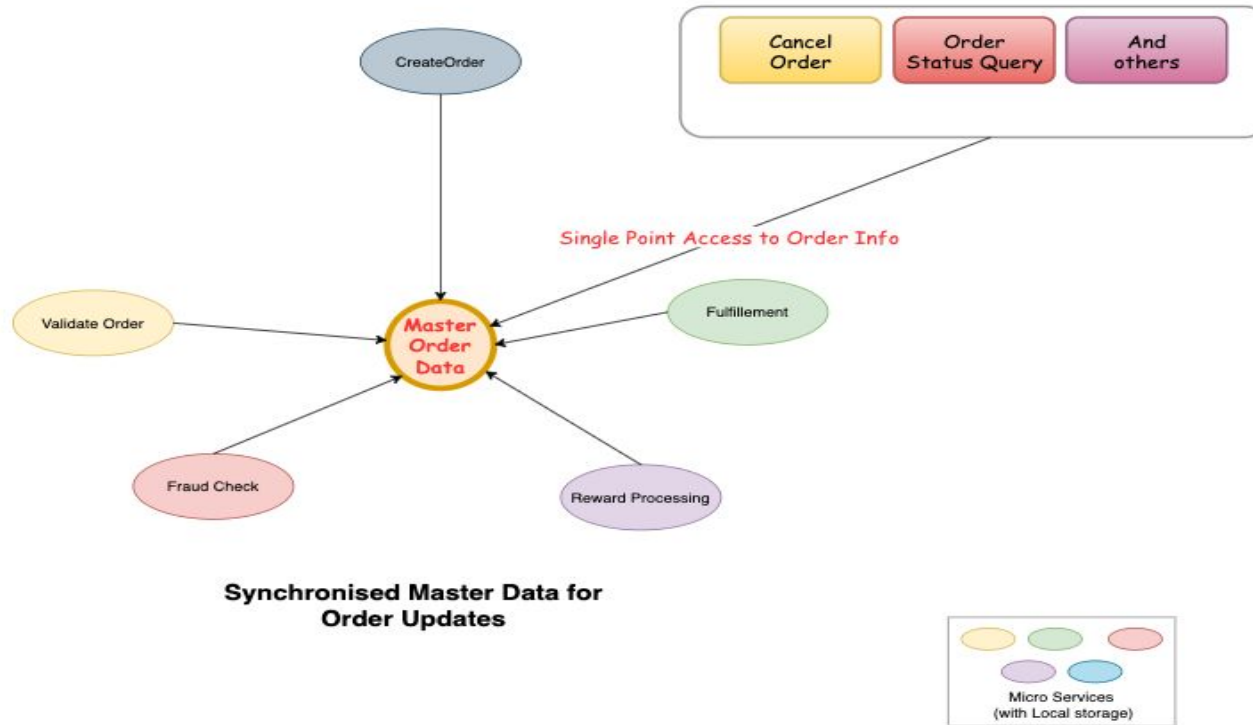
# Interaction with Content Partner

- Dedicated Broker Service between GiftCards Systems and Content Partners.
- Dedicated Partner-Broker-Service will communication and data transformation between the two side.
- GiftCards Systems will call the Broker Service to send order request to Partners.
- Partners will send back updates on submitted order to the Broker Service.
- Broker System will notify back to Original BH Service.
- Above approach to receive the response from Partners is Push API.
- In case of Partners Inability to use Push API, Broker service will use Pull API to retrieve the updates from them.





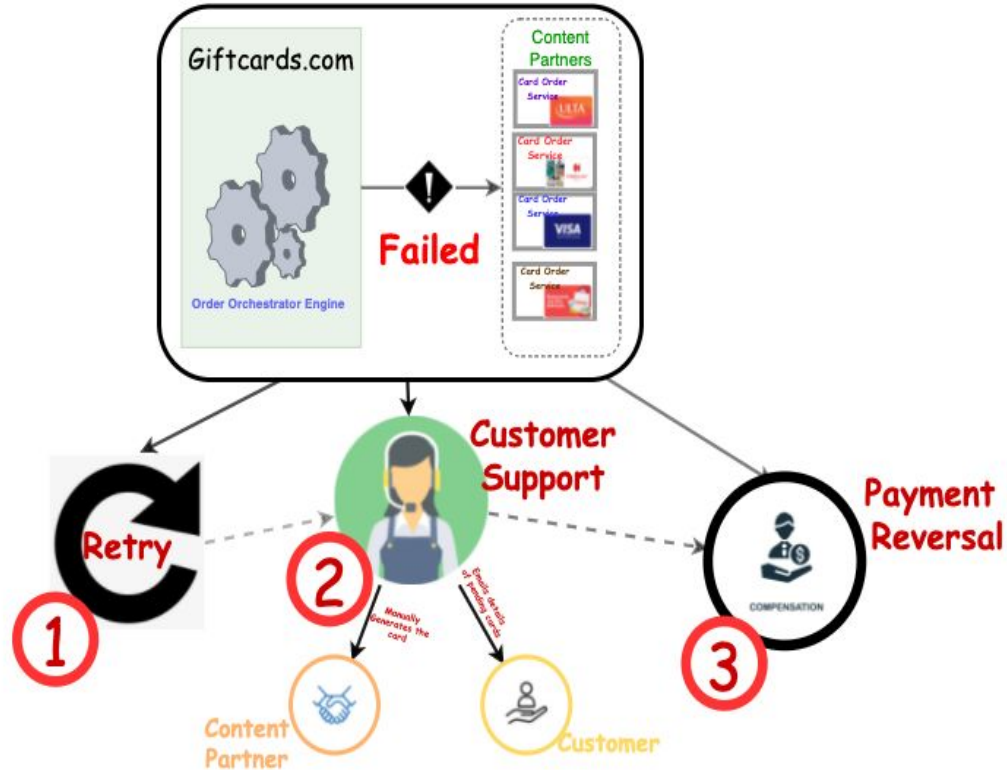
# Single Point Access for Order Update



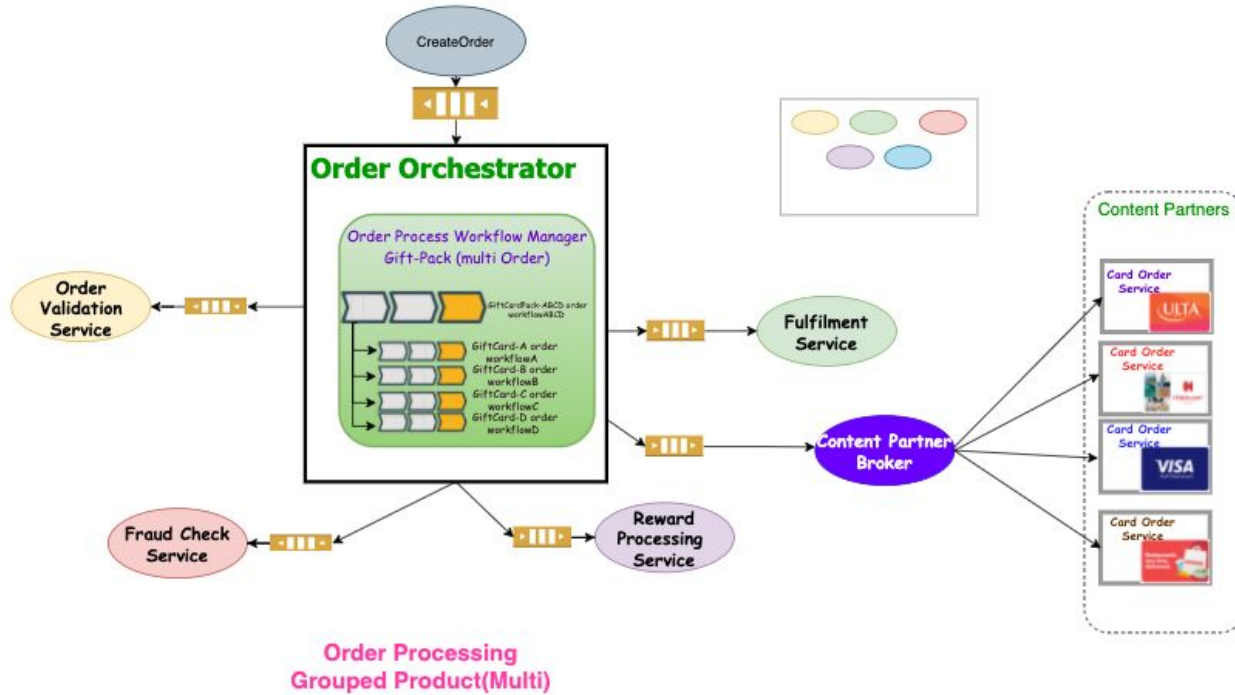
- Microservice based architecture divides the task in smaller part to be processed by several microservices
- Each microservice will process and store the result separately.
- For complete view of the data system needs multiple calls - leading to latency.
- Design addresses this issue by aggregating the piece of information in realtime and store it centrally.

# Order Completion & Error Handling

- Parent Workflow will wait for completion all the child workflow before it is marked complete.
- In case of any failure of child flow, system will retry flow.
- Customer Support alert issued by the system when system not able to recover even after retry attempts.
- Email sent with the Cards that are successfully purchased, along with note on pending card/cards about deadline to receive these cards.
- Customer support engage with partner to manually generate the card.
- Incase Partner is unable to provide the product(e.g. Discontinued Product), Compensation Process may perform partial or full payment reversal.

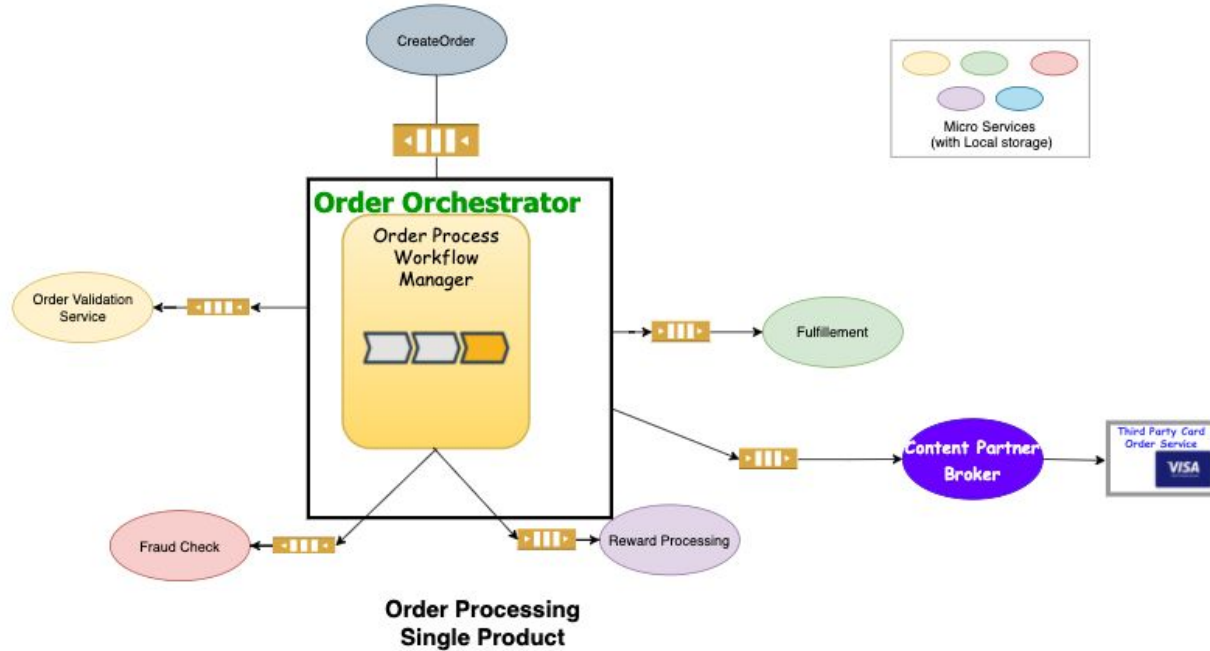


# Order Processing view for Grouped Item(e.g. UltraFreedom)



- Orchestration activity communicates to Content Partner using Content Partner Borker service
- All Message contract and any required transformation between Content Partner and Order State Machine takes place in Broker Service.

# Order Processing view for Single Ordinary Item



- Similar to Multi Card Scenario
  - Order Orchestration engine talks to Content Partner using Broker service
  - All Message contract and any required transformation between Content Partner and Order Orchestration service takes place within Broker Service(separation of concerns).