Business scenario (FoodPanda)

The business process begins when the customer begins looking for restaurants near his region.

1. He will send his details **(postal code, customerID, email, phone number)** to the Integration Middleware through the Customer Order System (COS).
2. The IM will look up the region name of the postal code from a Google map web service (postal code -> region).
3. It will then retrieve a list of packages that can be delivered to that region by sending an Async RR message through a queue to the Restaurant Management System,
   1. which will retrieve the information from a restaurant database.
4. The IM will also retrieve a list of customer preferences through the Customer Relations Management System (CRM) **(concurrent (3 and 4))** by sending the package list as an Async RR message through a queue.
5. This list will then be sorted by CRM based on the customer’s past preferences and then forwarded to the customer via the COS,
6. The customer will then have to select achoose a payment method (cash or paypal).
   1. If paypal is selected, CRM will calculate the price and lead the customer to make the payment through a paypal web portal.
7. Once a successful transaction has been confirmed, the order information ( including delivery address, customer ID, restaurant, meal pakages)will be sent to the IM.
8. The IM will send the order message to CRM via a fire-and-forget JMS message to update Order Record Database.
9. Send the order information to the appropriate restaurant’s order web service **(concurrent (8, 9 and 10), content-based routing).**
10. IM retrieves the customer’s contact information (i.e. phone number and email address) from CRM.
11. If available, the restaurant will return the estimated time for preparation to the IM.
12. The IM will look up the estimated delivery time **(concurrent (11 and 12))** from the restaurant to the customer via a Google map web service (traveling time from the restaurant to the customer’s specified address) and sum up the timings **(data transformation?)**.
13. This resultant timing will be sent to the customer via SMS (through a web service) and
14. email (IM plugin) **(concurrent (12 and 13))**.

Systems involved:

* Customer Order System (COS)
* Customer Relation Management System (CRM)
* Restaurant Management System (RMS)

Web Services:

* Google mapping (postal code -> region) (external - Google)
* Paypal payment (external - Paypal)
* Restaurant order (external – individual restaurant)
* Google mapping (time to destination) (external – Google)
* SMS web service (external)

JMS channels:

* COS -> IM (q.request.restaurantlist)
* IM -> RMS (q.request.listbyregion)
* RMS -> IM (q.reply.listbyregion)
* IM -> CRM (q.request.preferencelist)
* CRM -> IM (q.reply.preferencelist)
* IM -> COS (q.reply.restaurantlist)
* IM -> CRM (q.update.customerorder