

# Apache Kafka

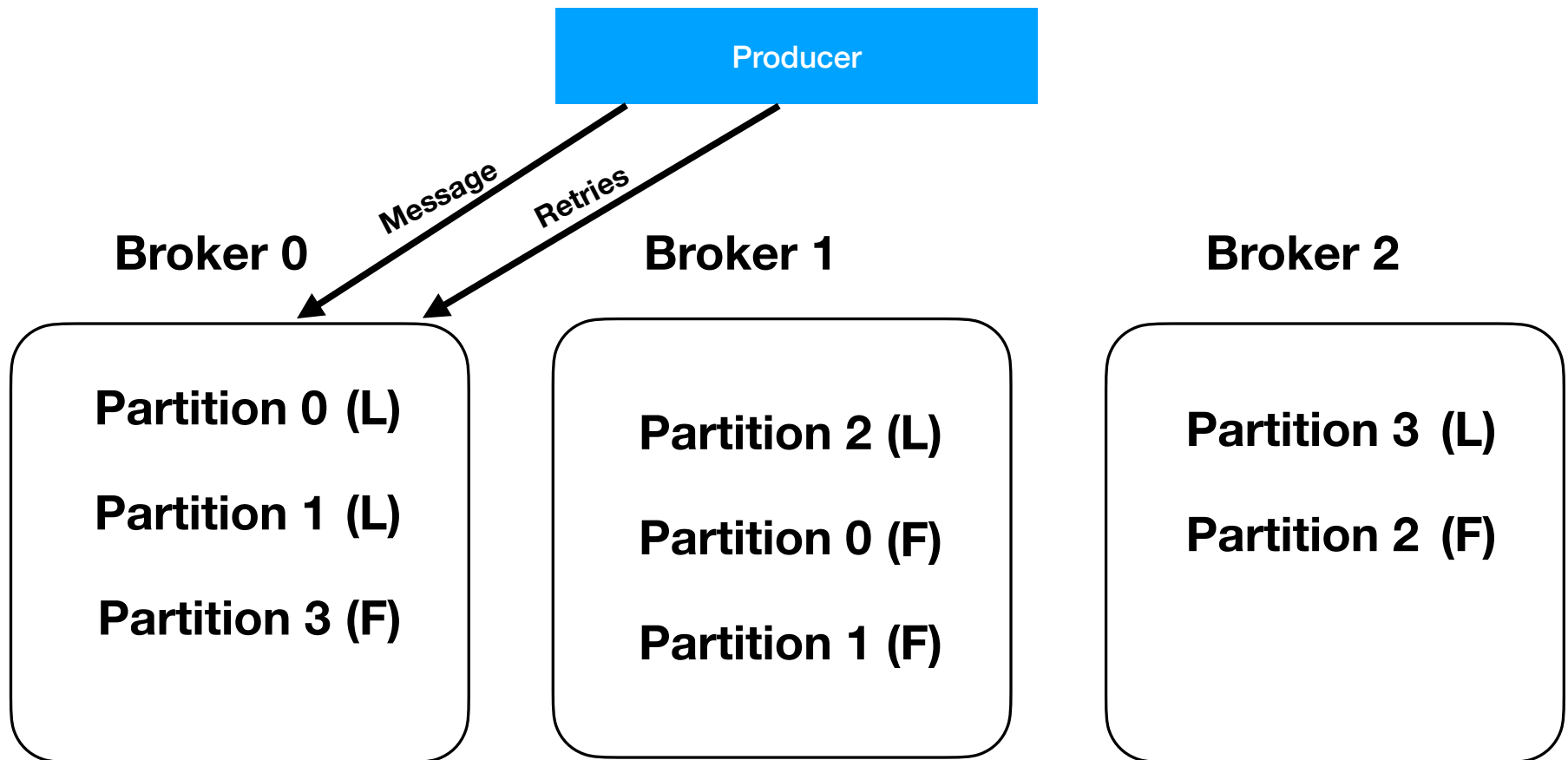
Kafka Delivery Semantics

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# Semantics

- At least once
- At most once
- Only once

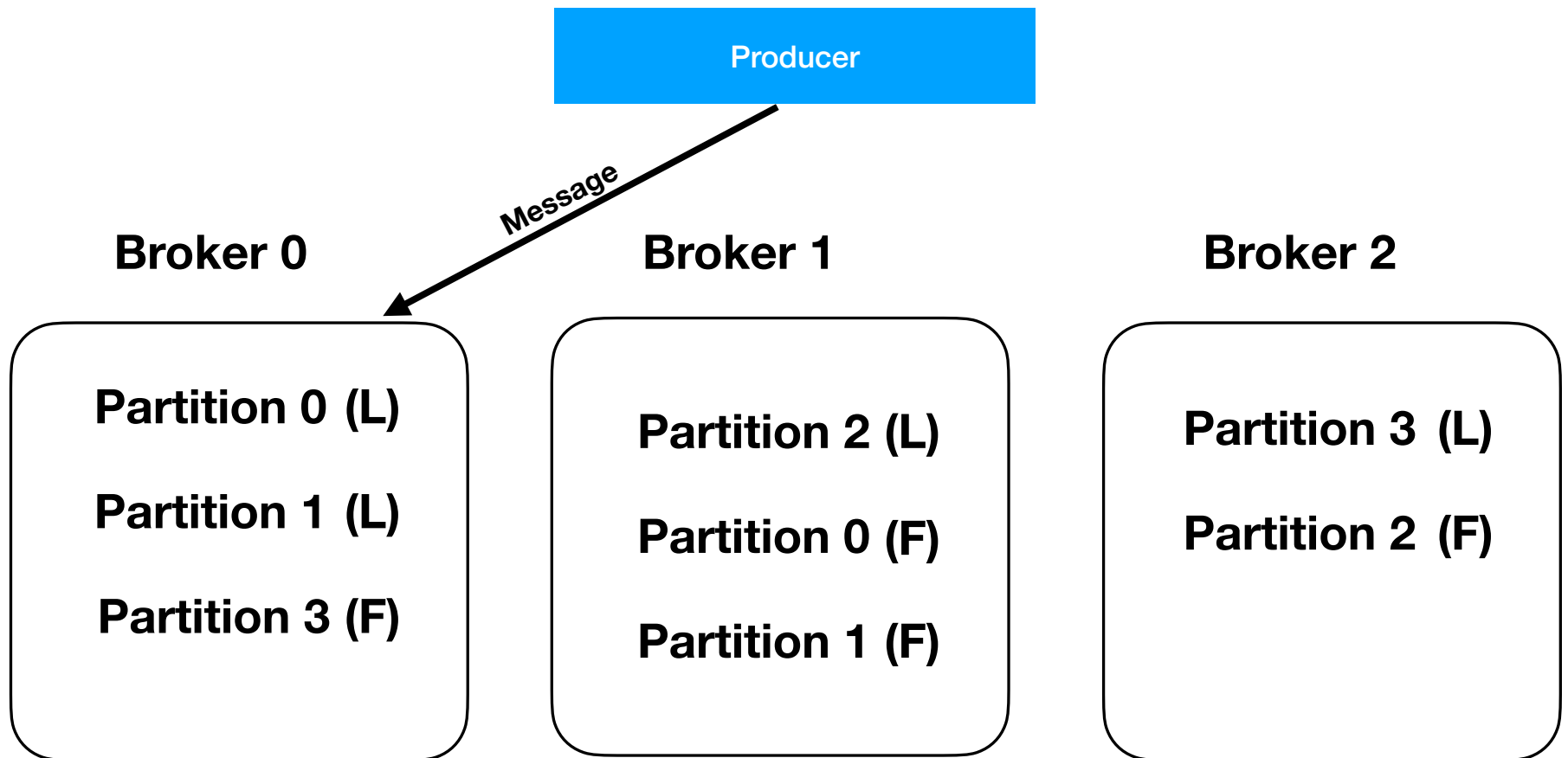
# At Least Once



# At Least Once

- Multiple Retries by configuring Retry Configuration
- If message not able to be delivered then the message will be Sent again
- We might have multiple of same message in the Queue

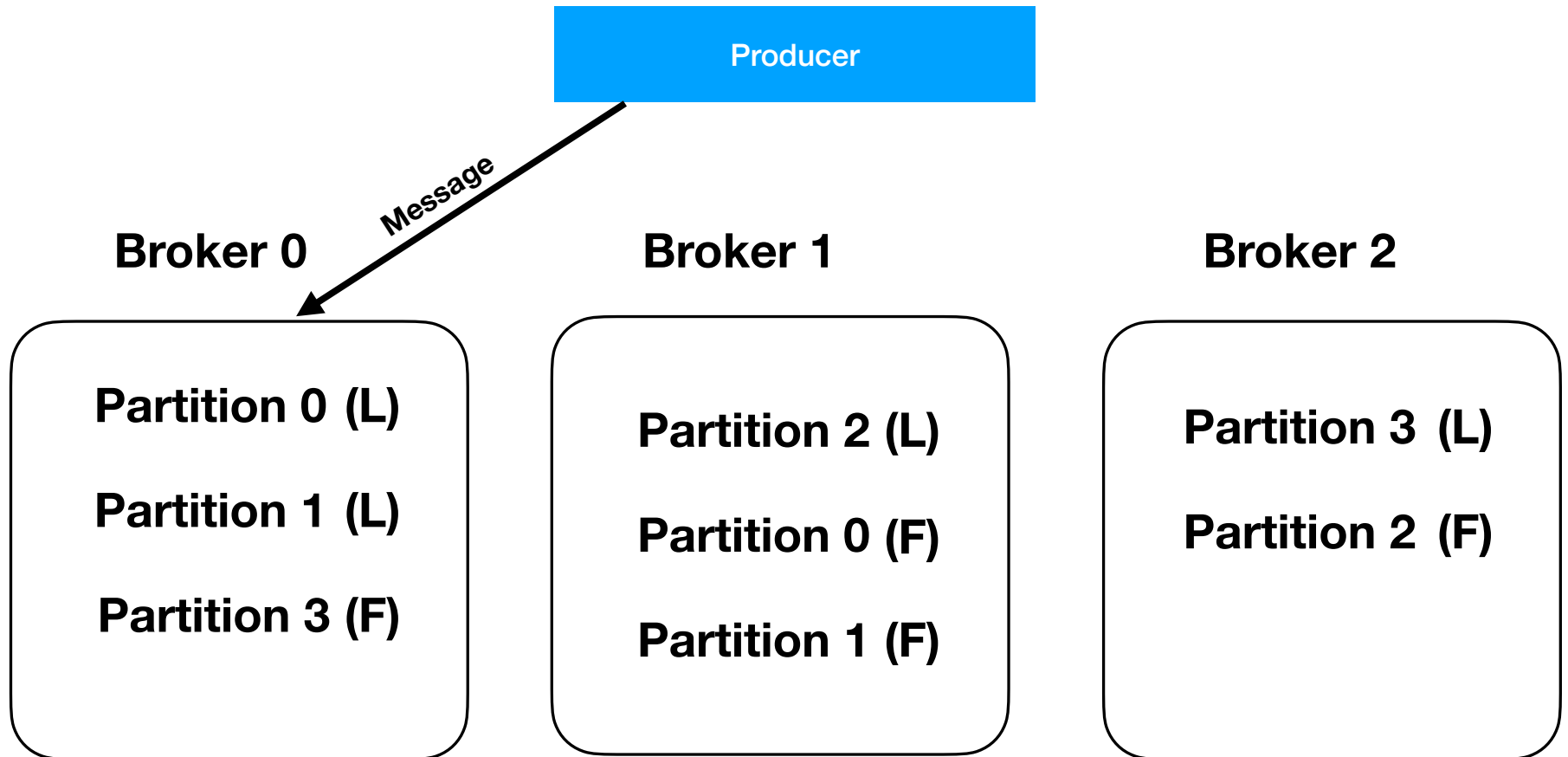
# At Most Once



# At Most Once

- No retries => Retry count configuration is 0
- If message not able to be delivered then the message will be lost forever

# Only Once



# Only Once

- Idempotency Enabled
- Multiple Retries by configuring Retry Configuration
- Message will be available only once



# Idempotency Mechanism

- By enabling Idempotency:
  - Sequence Number is generated by Producer
  - Producer Id is generated by Broker
- With Sequence Number and Producer Id, Kafka Simply doesn't allow that one message can be duplicated

# Only Once

