



阿里巴巴中间件

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Apache RocketMQ

101

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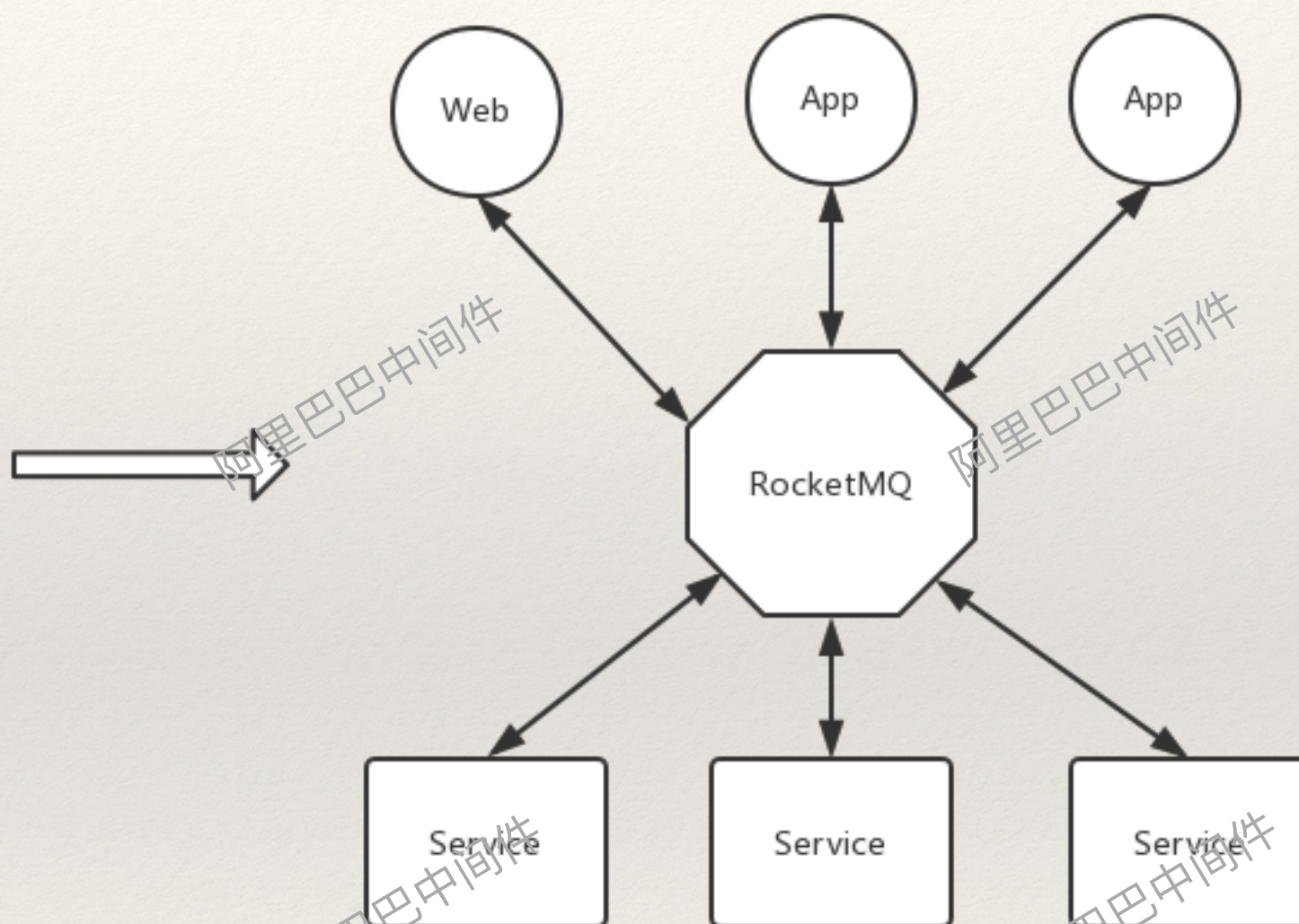
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Origin



<https://blog.iron.io/top-10-uses-for-message-queue/>

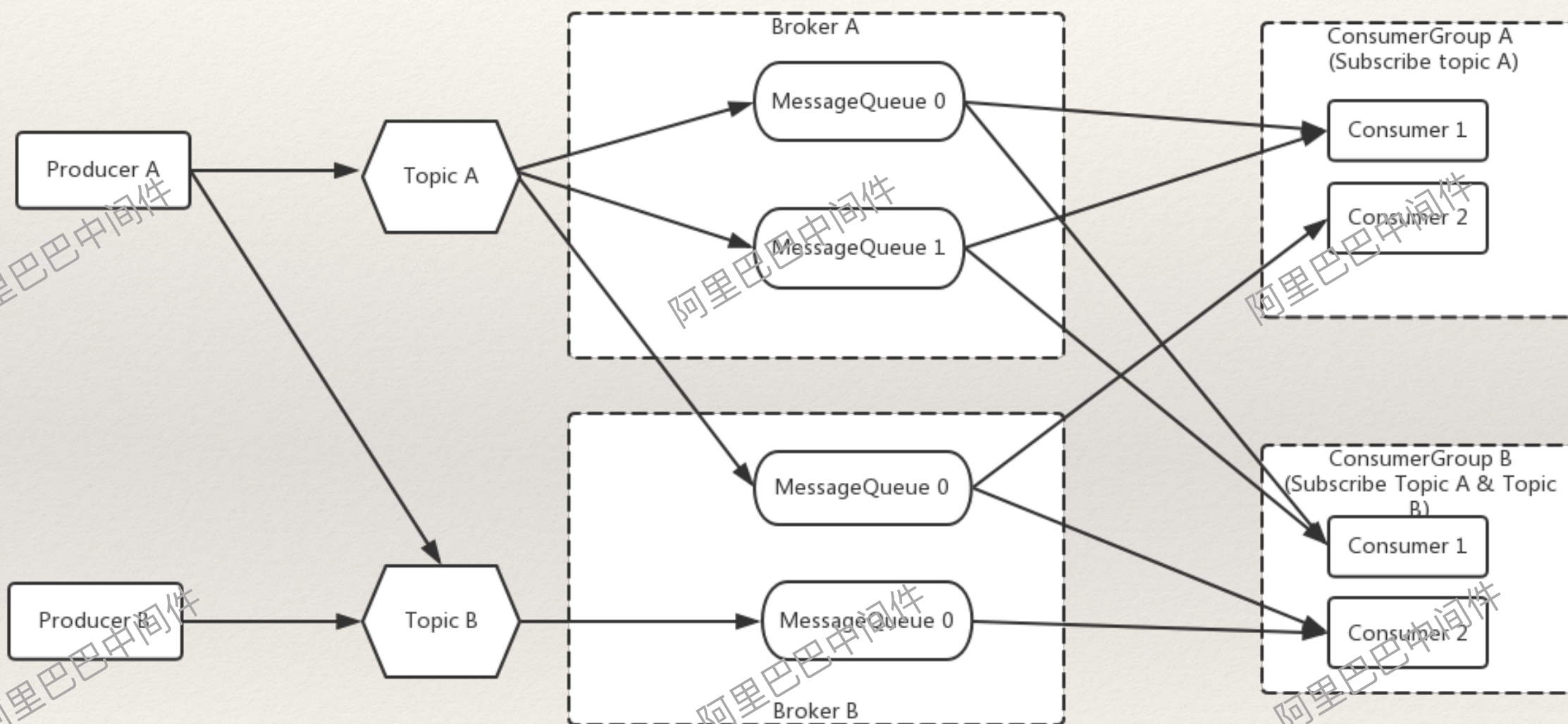


Conceptual Model

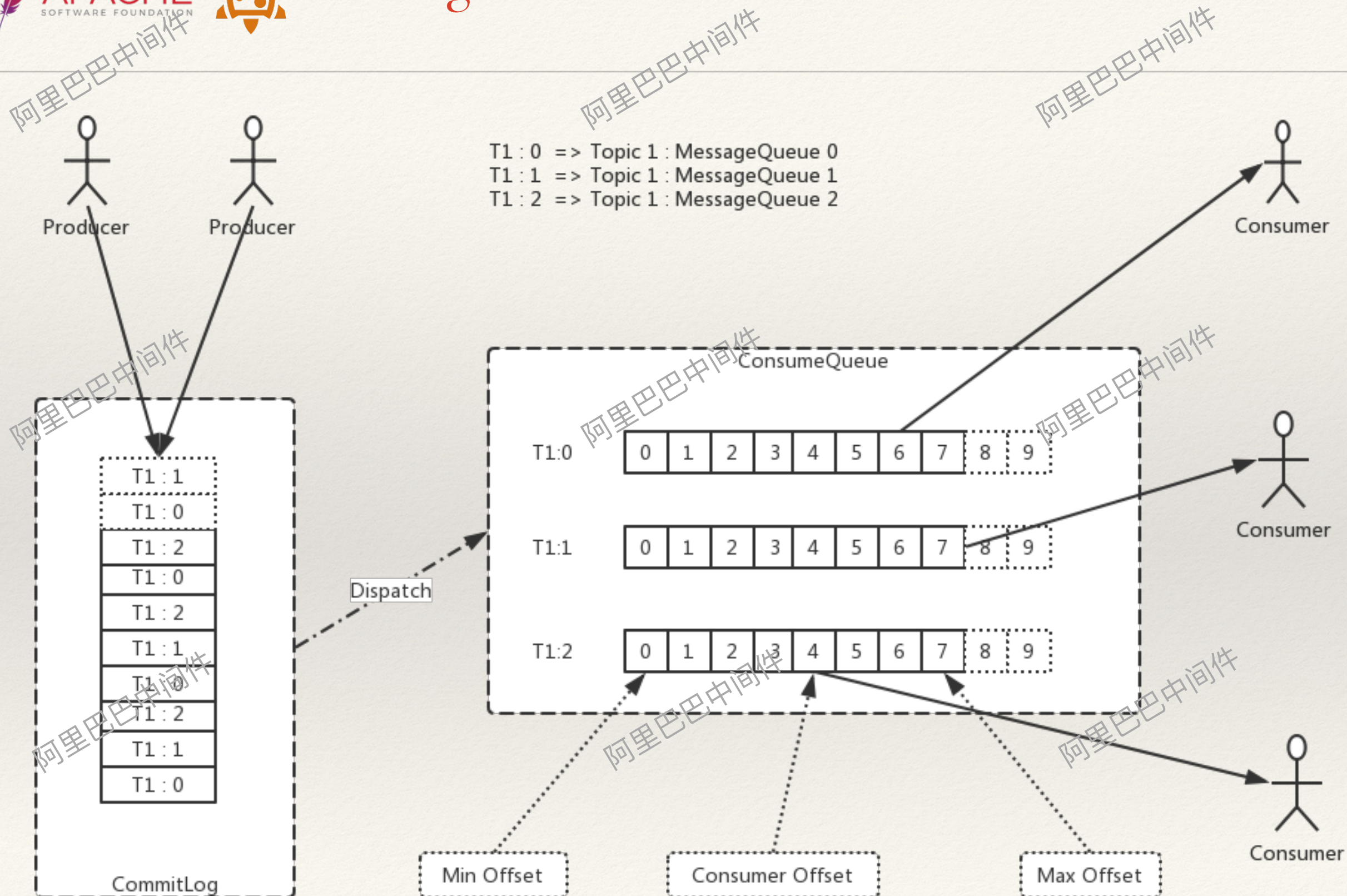




Conceptual Model

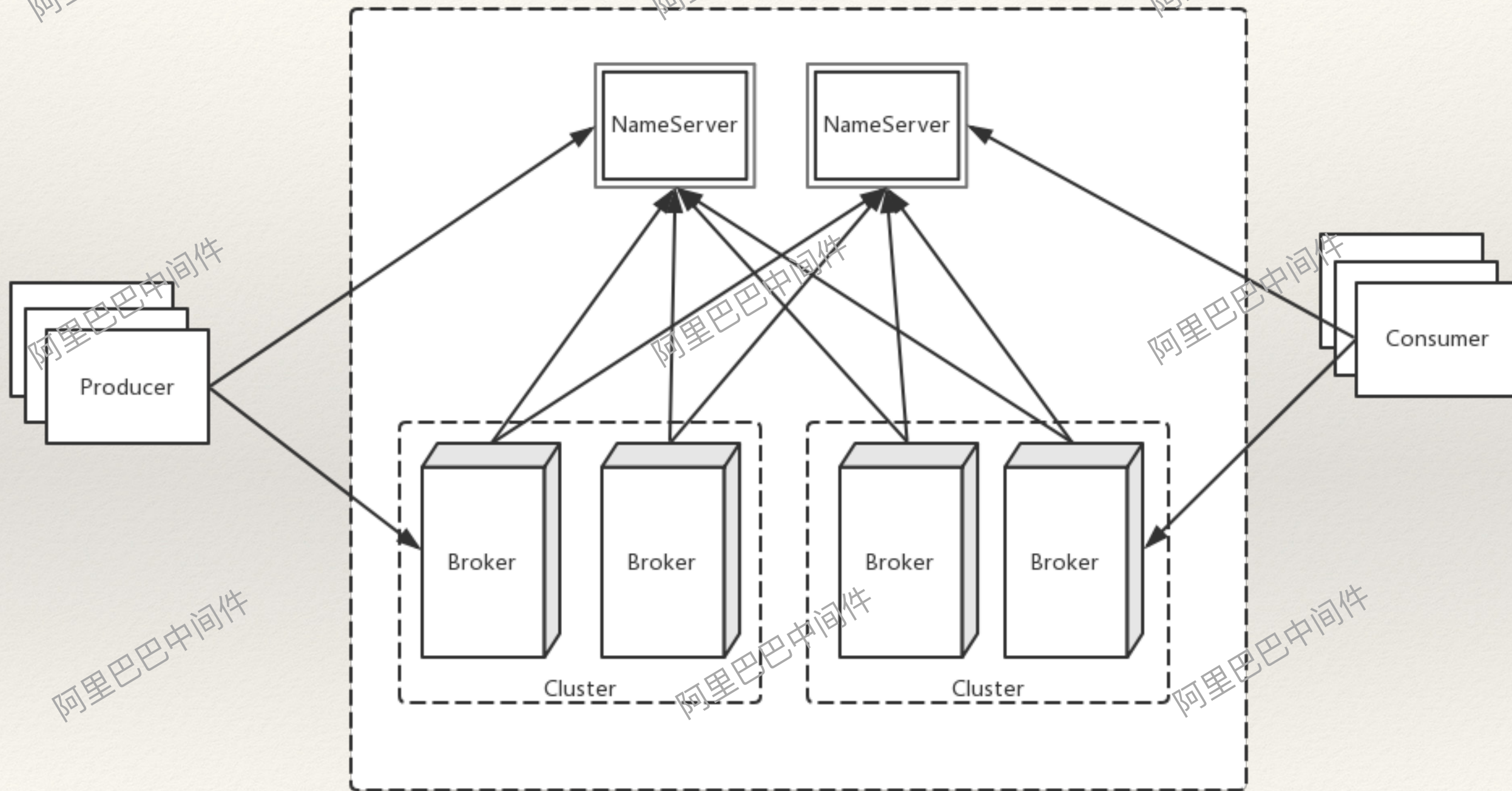


Storage Model





Deploy Model





Model Summary

- ❖ Pub-Sub & Producer & Consumer
- ❖ Topic & MessageQueue
- ❖ CommitLog & ConsumeQueue & Offset
- ❖ Broker & Nameserver



Quick Start—Start Nameserver & Broker

Start Name Server

```
> nohup sh bin/mqnamesrv &  
> tail -f ~/logs/rocketmqlogs/namesrv.log  
The Name Server boot success...
```

Start Broker

```
> nohup sh bin/mqbroker -n localhost:9876 &  
> tail -f ~/logs/rocketmqlogs/broker.log  
The broker[%s, 172.30.30.233:10911] boot success...
```

<https://rocketmq.apache.org/docs/quick-start/>



Quick Start—Start Nameserver & Broker

```
liuzhenongdeMBP:rocketmq-4.3.1 liuzhendong$ jps
46741 BrokerStartup
46220 NamesrvStartup
46782 Jps
```

```
liuzhenongdeMBP:rocketmq-4.3.1 liuzhendong$ sh bin/mqadmin clusterList -n localhost:9876
Java HotSpot(TM) 64-Bit Server VM warning: ignoring option PermSize=128m; support was removed in
Java HotSpot(TM) 64-Bit Server VM warning: ignoring option MaxPermSize=128m; support was removed
#Cluster Name      #Broker Name      #BID  #Addr      #Version      #1
CWait(ms) #Hour #SPACE
DefaultCluster    liuzhendongdeMacBook-Pro.local 0      10.173.158.165:10911  V4_3_0_SNAPSHOT
,0ms)             0 426590.45 0.8139
liuzhenongdeMBP:rocketmq-4.3.1 liuzhendong$
```

<https://rocketmq.apache.org/docs/quick-start/>



Quick Start—Send Message

```
liuzhenongdeMBP:rocketmq-4.3.1 liuzhendong$ sh bin/mqadmin sendMessage -t test -k 123 -p "Hello" -n localhost:9876
Java HotSpot(TM) 64-Bit Server VM warning: ignoring option PermSize=128m; support was removed in 8.0
Java HotSpot(TM) 64-Bit Server VM warning: ignoring option MaxPermSize=128m; support was removed in 8.0
#Broker Name          #QID  #Send Result          #MsgId
liuzhendongdeMacBook-Pro.local 4      SEND_OK                0AAD9EA5B6C50D7163619F51E32D0000
```

```
liuzhenongdeMBP:rocketmq-4.3.1 liuzhendong$ sh bin/mqadmin queryMsgByKey -t test -i 0AAD9EA5B6C50D7163619F51E32D0000 -n localhost:9876
Java HotSpot(TM) 64-Bit Server VM warning: ignoring option PermSize=128m; support was removed in 8.0
Java HotSpot(TM) 64-Bit Server VM warning: ignoring option MaxPermSize=128m; support was removed in 8.0
Topic:                test
Tags:                  [null]
Keys:                  [123]
Queue ID:              4
Queue Offset:          0
CommitLog Offset:      450
Reconsume Times:        0
Born Timestamp:         2018-08-31 22:29:03,917
Store Timestamp:        2018-08-31 22:29:03,924
Born Host:              10.173.158.165:61818
Store Host:             10.173.158.165:10911
System Flag:            0
Properties:              {KEYS=123, UNIQ_KEY=0AAD9EA5B6C50D7163619F51E32D0000, WAIT=true}
Message Body Path:      /tmp/rocketmq/msgbodies/0AAD9EA5B6C50D7163619F51E32D0000
```




Quick Start—Send Message

```
liuzhenongdeMBP:rocketmq-4.3.1 liuzhendong$ sh bin/mqadmin topicStatus -t test -n localhost:9876
Java HotSpot(TM) 64-Bit Server VM warning: ignoring option PermSize=128m; support was removed in 8.0
Java HotSpot(TM) 64-Bit Server VM warning: ignoring option MaxPermSize=128m; support was removed in 8.0
#Broker Name                                #QID  #Min Offset      #Max Offset      #Last Updated
liuzhendongdeMacBook-Pro.local             0      0                0                2018-08-30 12:07:18,628
liuzhendongdeMacBook-Pro.local             1      0                2                2018-08-30 12:07:18,628
liuzhendongdeMacBook-Pro.local             2      0                0                2018-08-30 12:07:18,628
liuzhendongdeMacBook-Pro.local             3      0                0                2018-08-30 12:07:18,628
liuzhendongdeMacBook-Pro.local             4      0                1                2018-08-31 22:29:03,924
liuzhendongdeMacBook-Pro.local             5      0                0                2018-08-30 12:07:25,779
liuzhendongdeMacBook-Pro.local             6      0                0                2018-08-30 12:07:25,779
liuzhendongdeMacBook-Pro.local             7      0                1                2018-08-30 12:07:25,779
liuzhenongdeMBP:rocketmq-4.3.1 liuzhendong$
```




Quick Start—Consume

```
public static void main(String[] args) throws InterruptedException, MQClientException {  
    // Instantiate with specified consumer group name.  
    DefaultMQPushConsumer consumer = new DefaultMQPushConsumer( consumerGroup: "CID-test");  
  
    // Specify name server addresses.  
    consumer.setNamesrvAddr("localhost:9876");  
  
    // Subscribe one more more topics to consume.  
    consumer.subscribe( topic: "TopicTest", subExpression: "*");  
    // Register callback to execute on arrival of messages fetched from brokers.  
    consumer.registerMessageListener(new MessageListenerConcurrently() {  
        @Override  
        public ConsumeConcurrentlyStatus consumeMessage(List<MessageExt> msgs,  
            ConsumeConcurrentlyContext context) {  
            System.out.printf("%s Receive New Messages: %s %n", Thread.currentThread().getName(), msgs);  
            return ConsumeConcurrentlyStatus.CONSUME_SUCCESS;  
        }  
    });  
  
    //Launch the consumer instance.  
    consumer.start();  
  
    System.out.printf("Consumer Started.%n");  
}
```

<https://rocketmq.apache.org/docs/simple-example/>



Quick Start—Query ConsumerProgress

```
liuzhendongdeMBP:rocketmq-4.3.1 liuzhendong$ sh bin/mqadmin -u consumerProgress -g CID-test -n localhost:9876
Java HotSpot(TM) 64-Bit Server VM warning: ignoring option PermSize=128m; support was removed in 8.0
Java HotSpot(TM) 64-Bit Server VM warning: ignoring option MaxPermSize=128m; support was removed in 8.0
#Topic          #Broker Name          #QID #Broker Offset      #Consumer Offset      #Client IP
#Diff          #LastTime
%RETRY%CID-test    liuzhendongdeMacBook-Pro.local    0    0                0                N/A
0
test             liuzhendongdeMacBook-Pro.local    0    0                0                N/A
0
test             liuzhendongdeMacBook-Pro.local    1    2                2                N/A
0
test             liuzhendongdeMacBook-Pro.local    2    0                0                N/A
0
test             liuzhendongdeMacBook-Pro.local    3    0                0                N/A
0
test             liuzhendongdeMacBook-Pro.local    4    1                1                N/A
0
test             liuzhendongdeMacBook-Pro.local    5    0                0                N/A
0
test             liuzhendongdeMacBook-Pro.local    6    0                0                N/A
0
test             liuzhendongdeMacBook-Pro.local    7    1                1                N/A
0
2018-08-30 12:07:25
Consume TPS 0.0
Diff Top 0
```




Quick Start

- ❖ Start Nameserver & Broker
- ❖ Send Message & Query Topic Status
- ❖ Consume Message & Query Consumer Progress

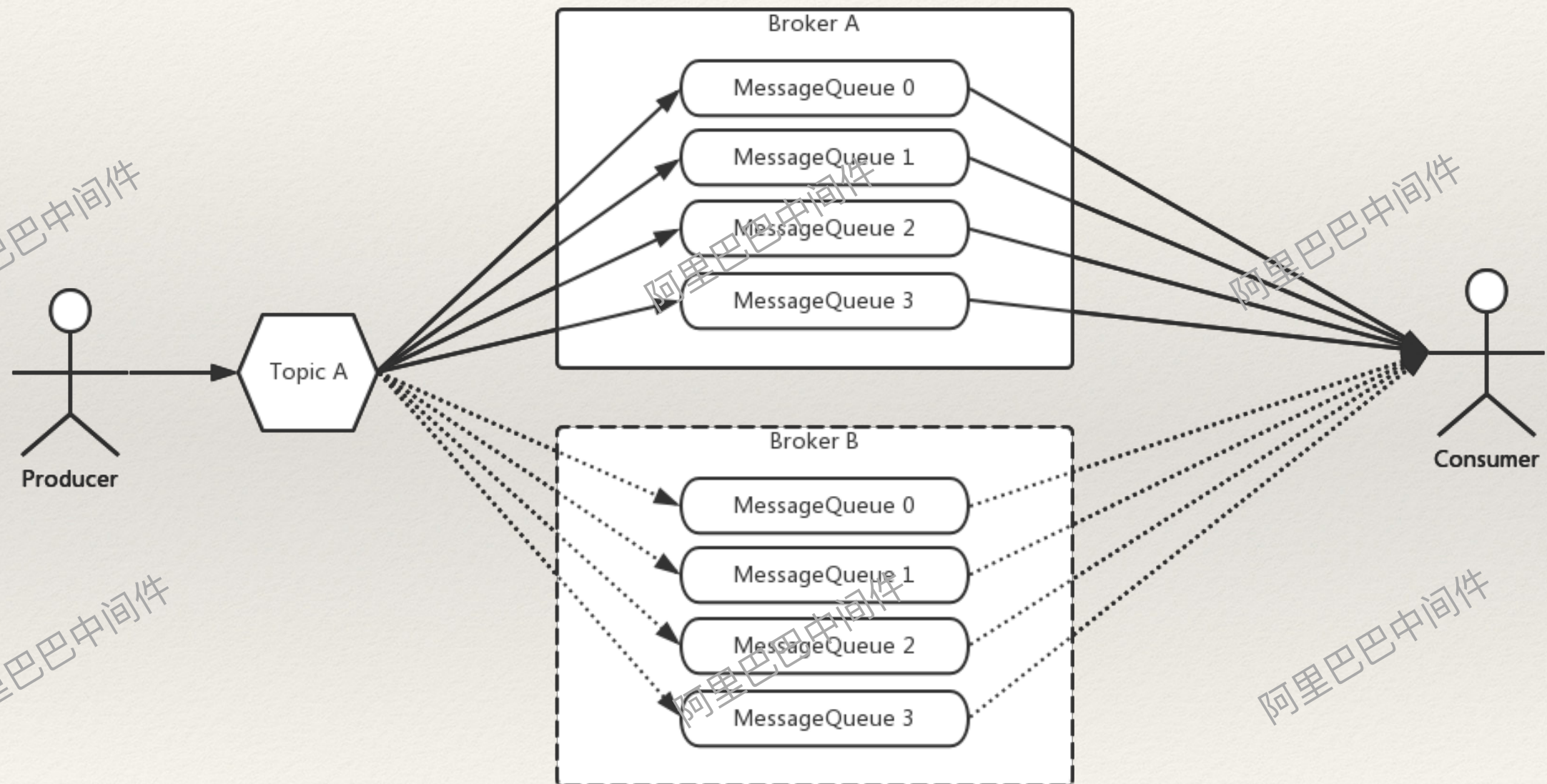


Flood Peak

Double Eleven Festival

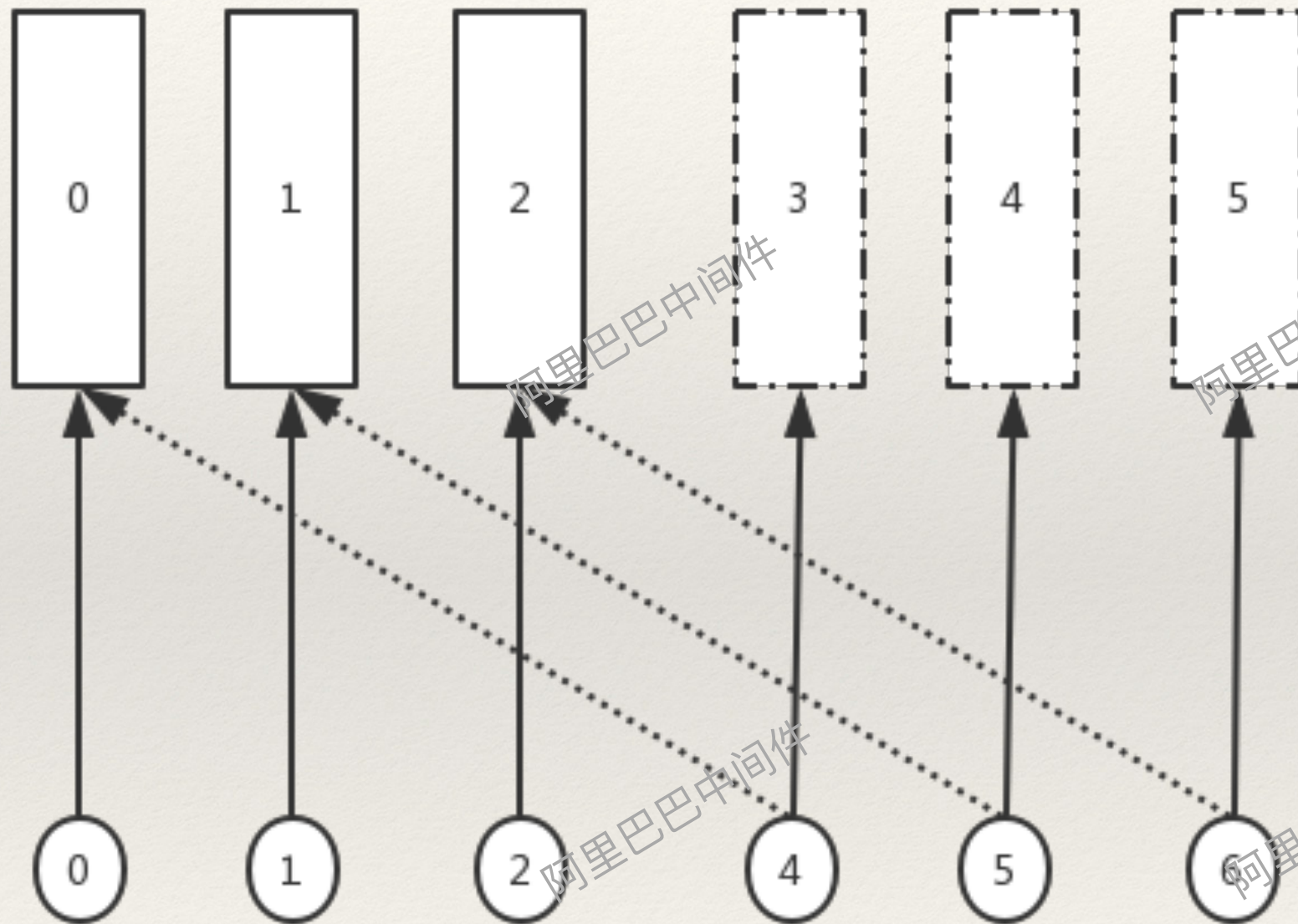


Elasticity—Infinite Expansion & Shrinkage



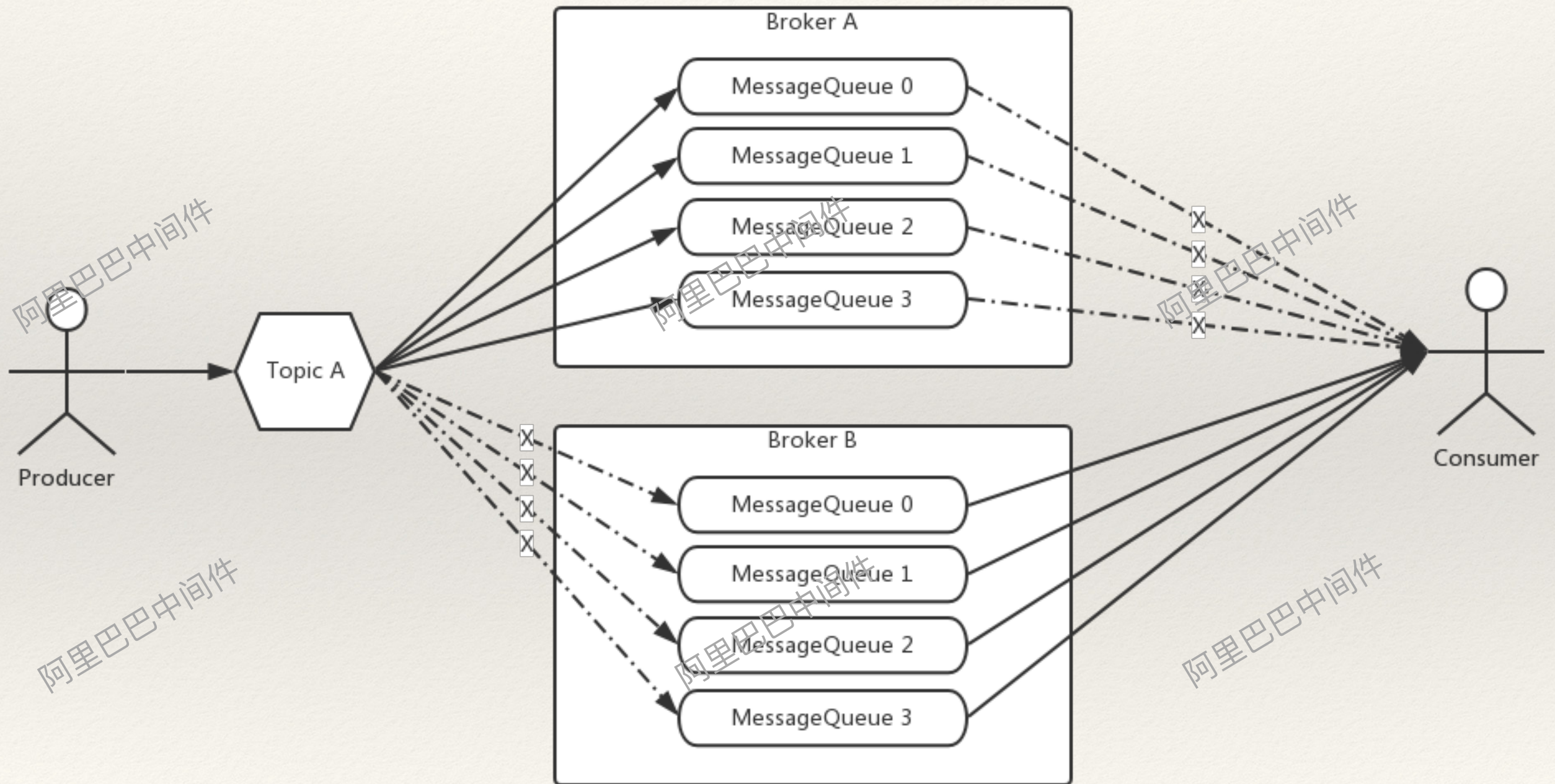


Elasticity—Ordered Expansion & Shrinkage



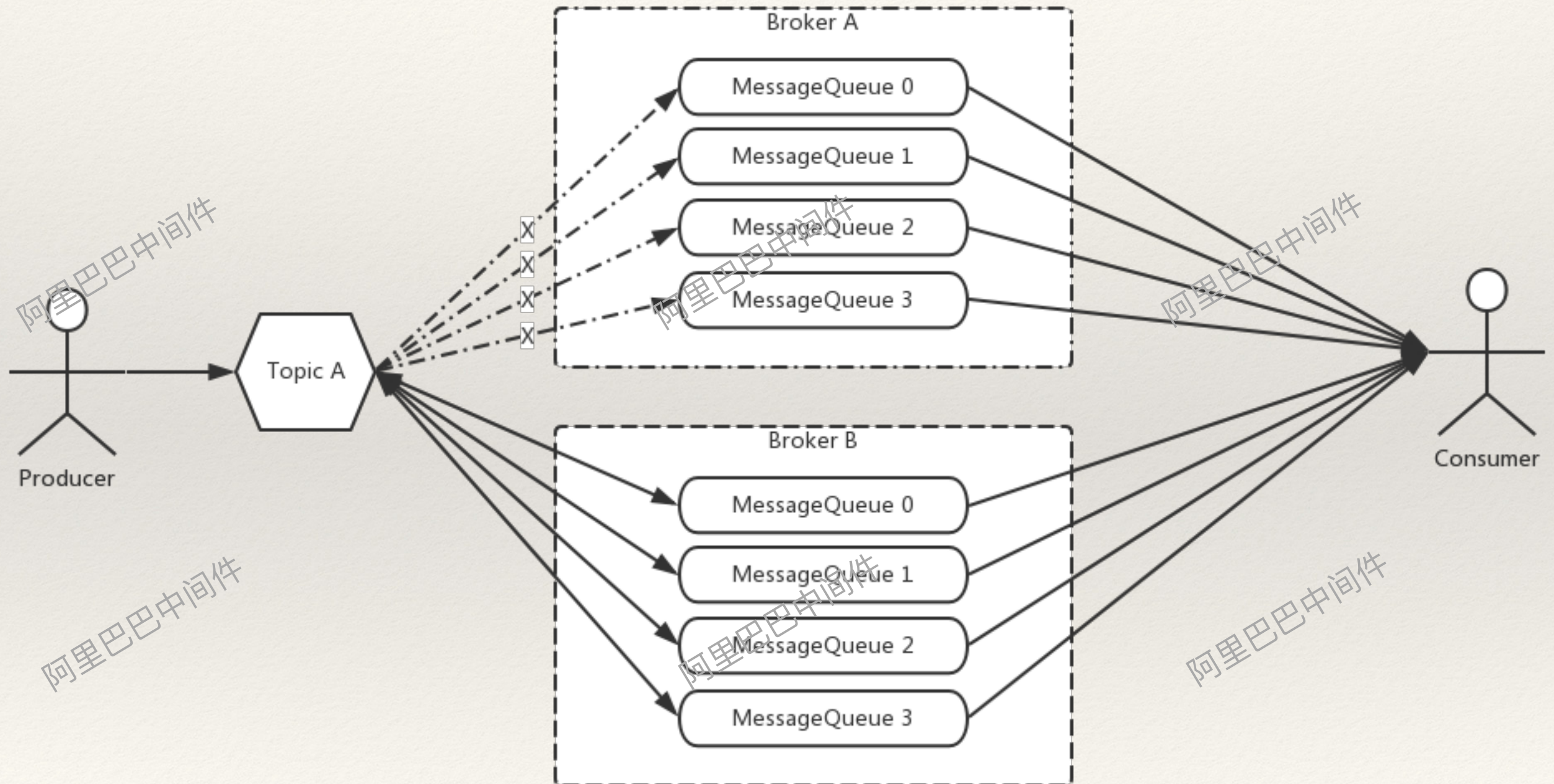


Elasticity—Write perm & Read perm





Elasticity—Migration





Elasticity—Cloud Native

❖ Elasticity

❖ Dynamic or Mixed Cloud

❖ Observability

❖ Operability



Features

- ❖ High Performance
- ❖ Low Latency
- ❖ Order
- ❖ Congestion
- ❖ Schedule
- ❖ Batch
- ❖ Filter
- ❖ Transaction



Summary

- ❖ Origin
- ❖ Model
- ❖ Quick Start
- ❖ Elasticity & Cloud Native
- ❖ Features

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