QBus
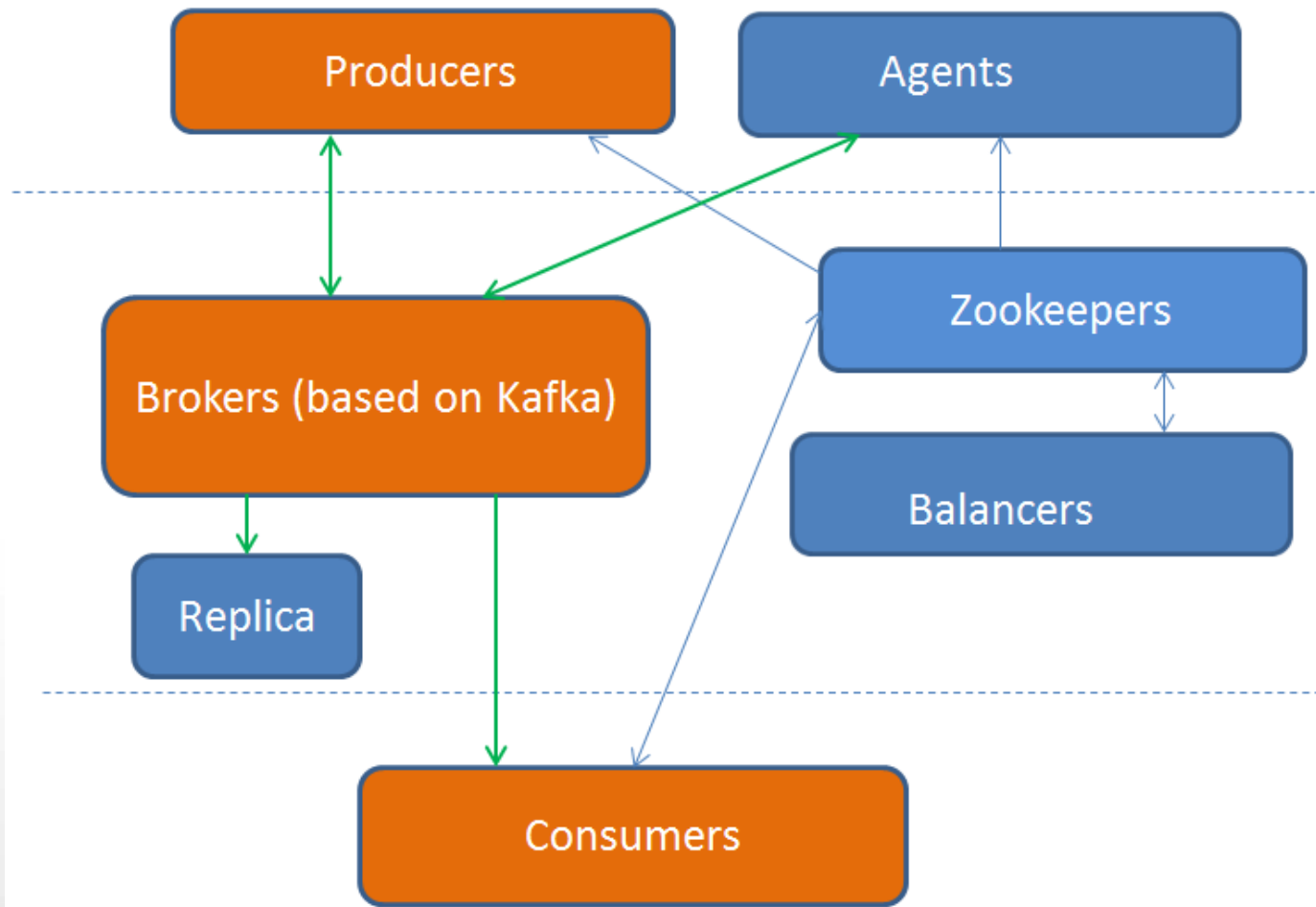
Qihoo 360 – Infrastructure Team

Messaging system
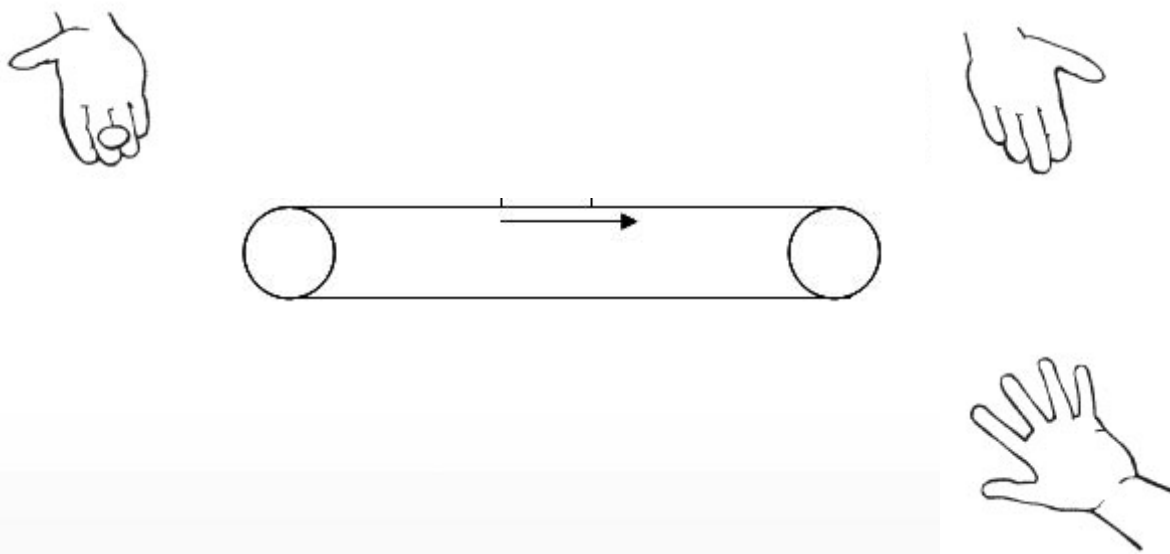
bird-view

features

- high-reliability

- high-throughput

- ……

high-reliability
-- Broker

a Partition a directory   a Partition N files

34477849968-35551592051
35551592052-36625333894
82796232652-83869974631

34477849968.kafka

Message 34477849968
......
Message 35551592051

82796232652.kafka

Message 82796232652
......
Message 83869974631
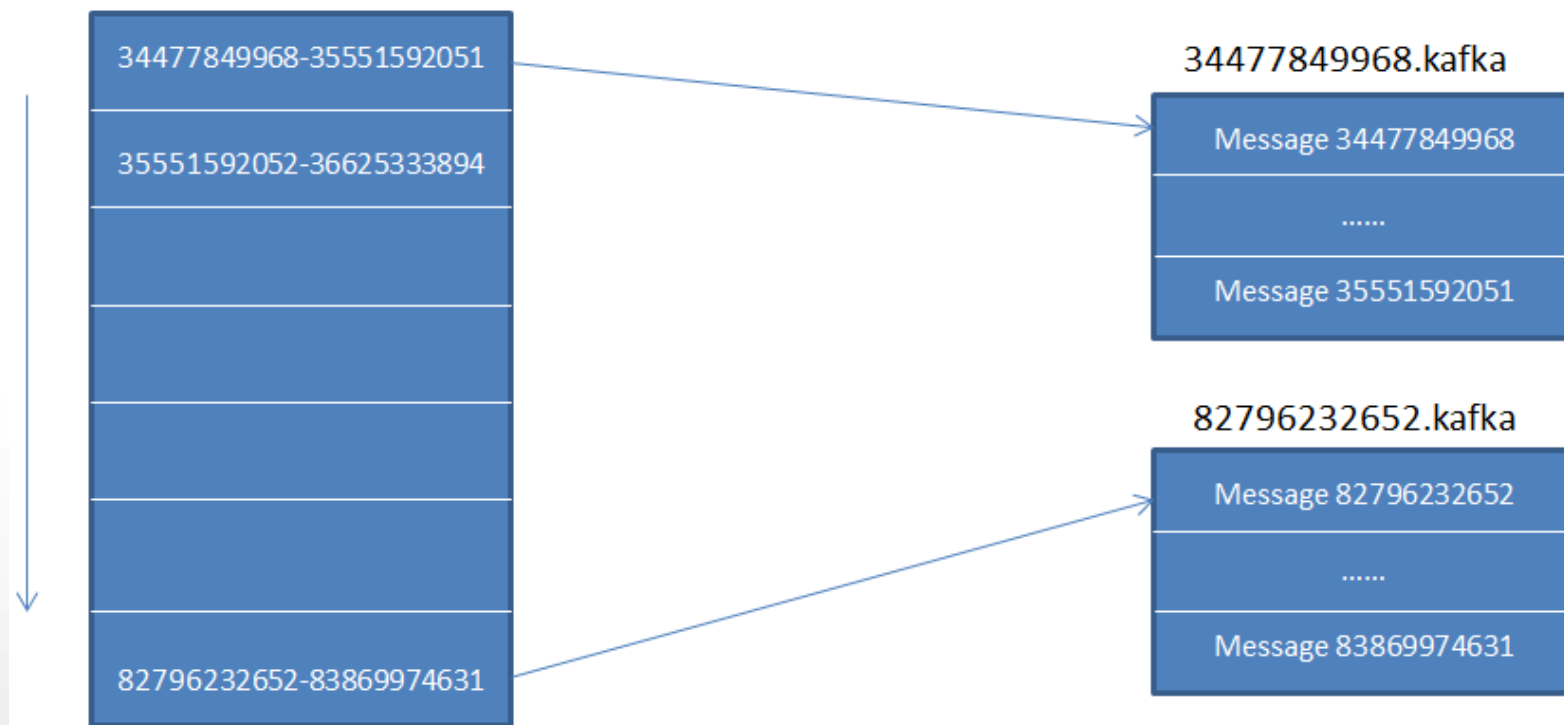
high-reliability
-- Replica

Broker1　　　Broker2　　　Broker3

inotify

Zookeepers

Replica
sync points

high-reliability
-- protocol

```
0                   1                   2                   3
 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6 7 8 9 0 1
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
|                         REQUEST_LENGTH                        |
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
|        REQUEST_TYPE           |           TOPIC_LENGTH        |
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
/                                                              /
/                   TOPIC (variable length)                    /
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
|                          PARTITION                           |
+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+-+
```
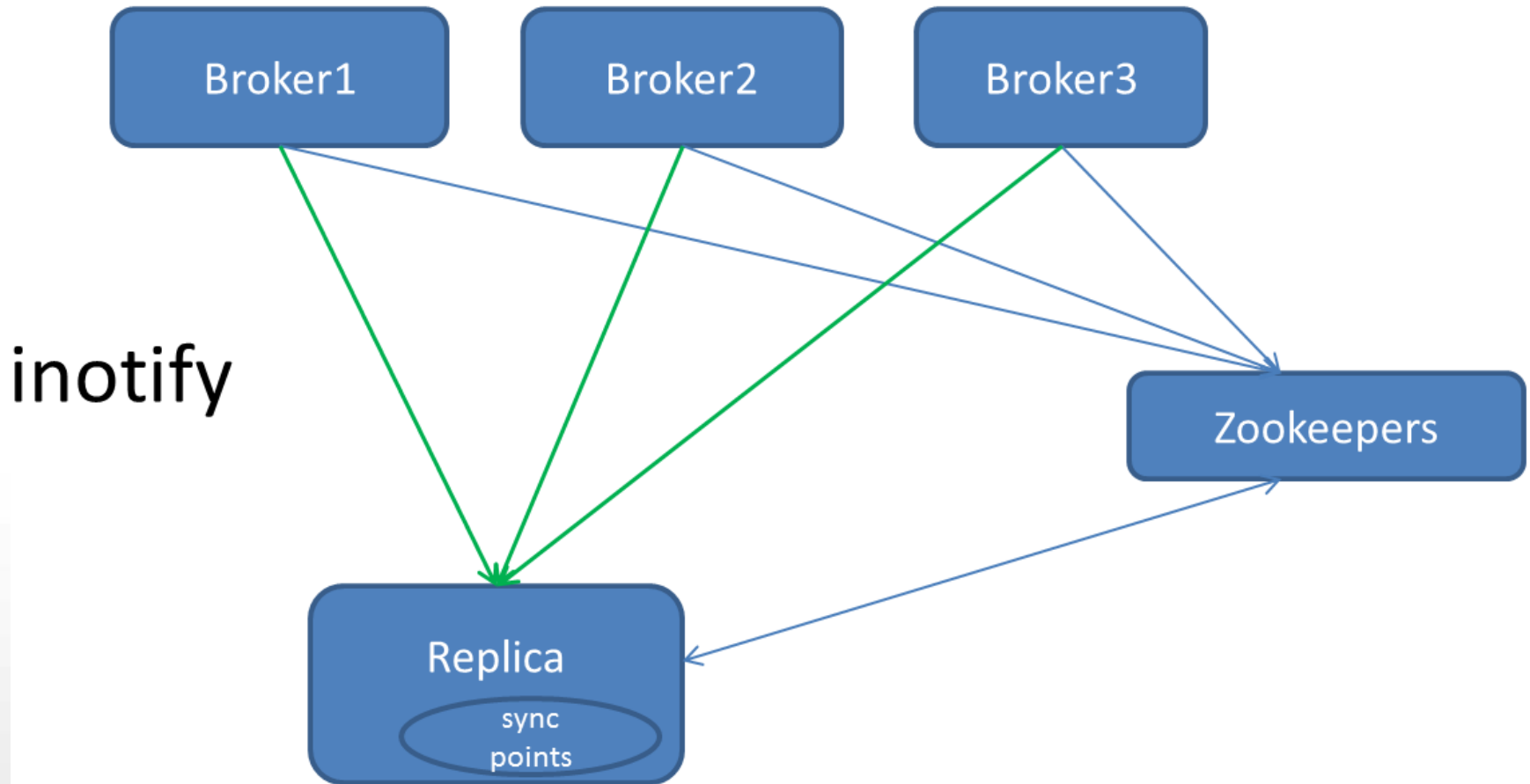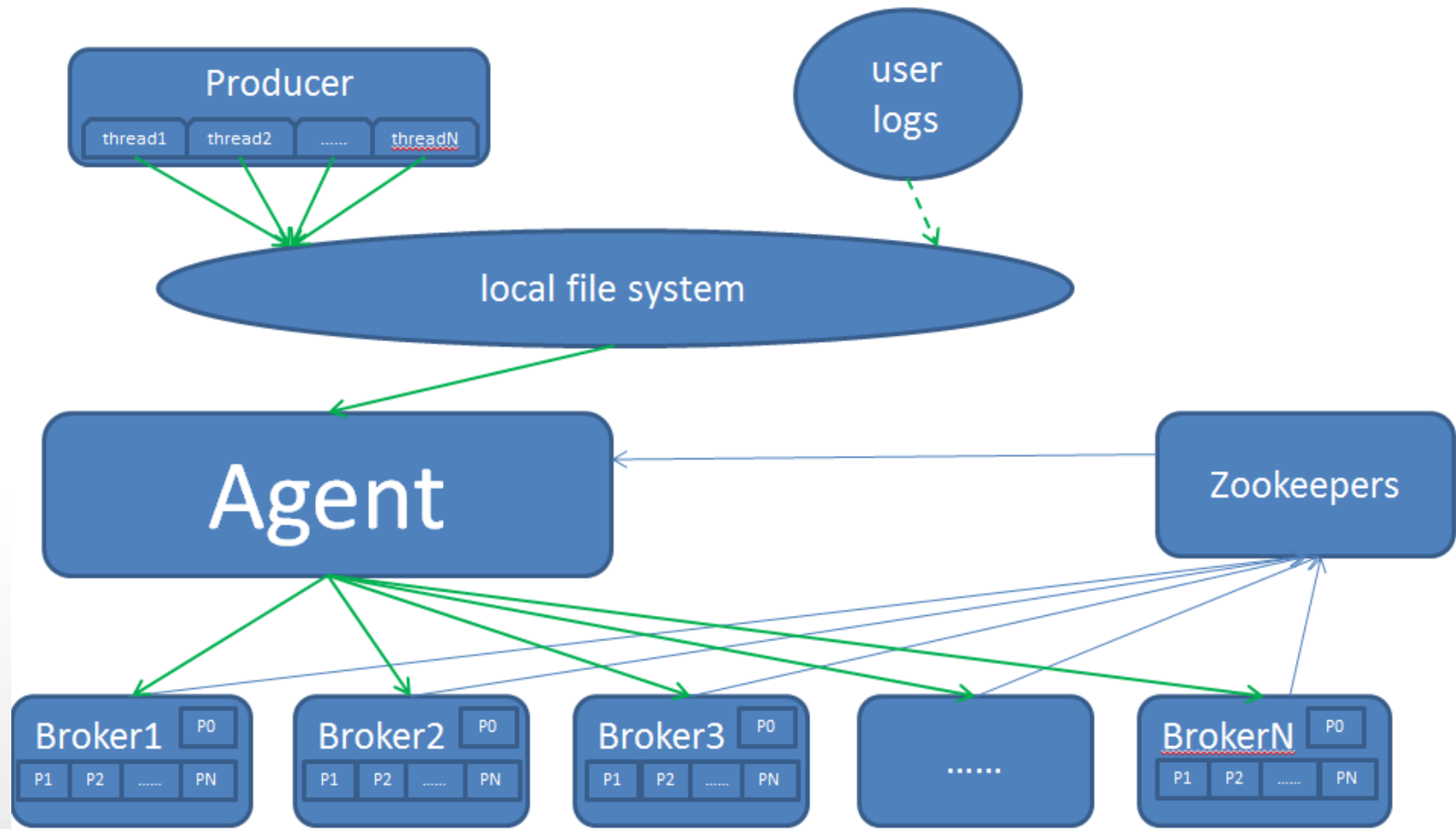
Agent
async send & log collection
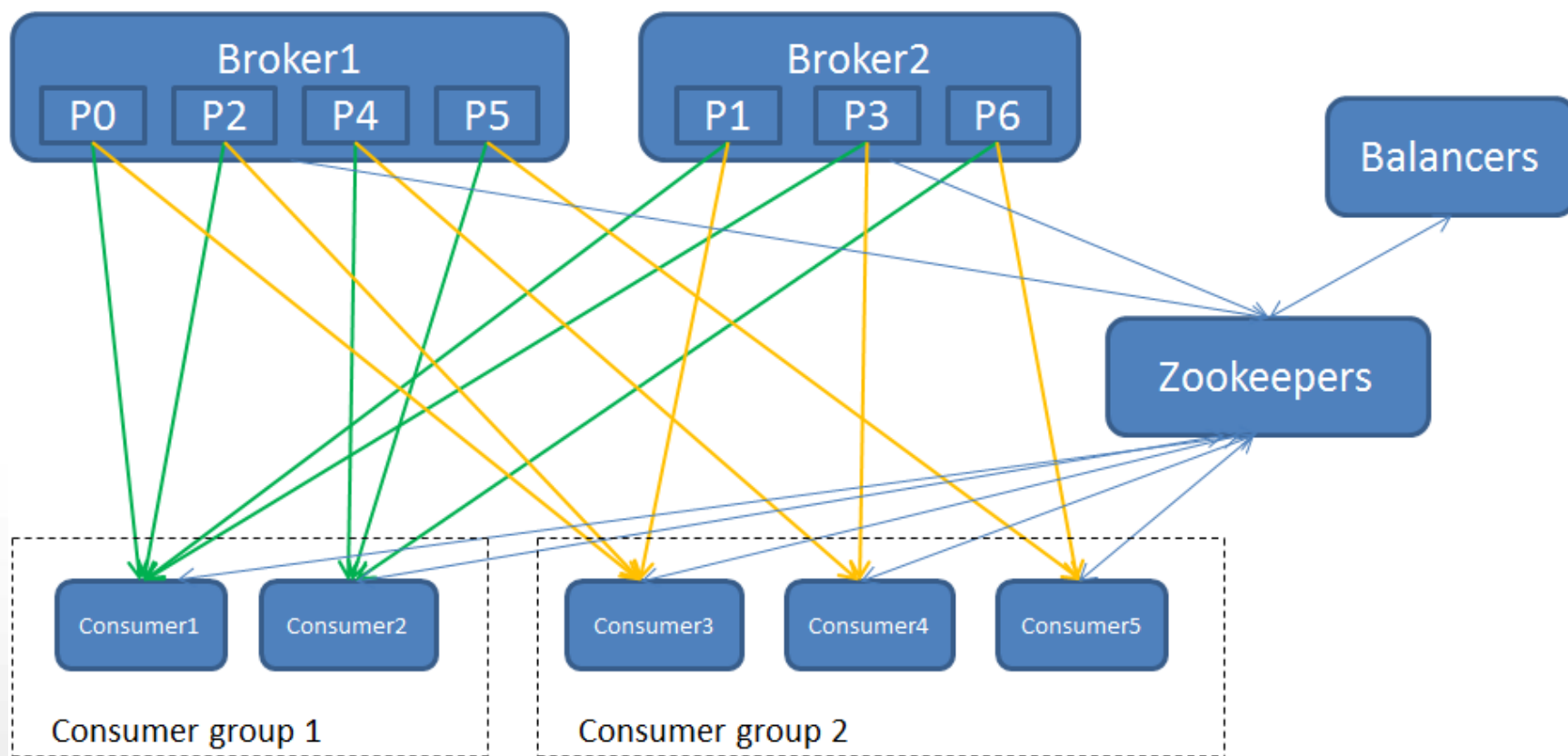
high-throughput
-- Broker

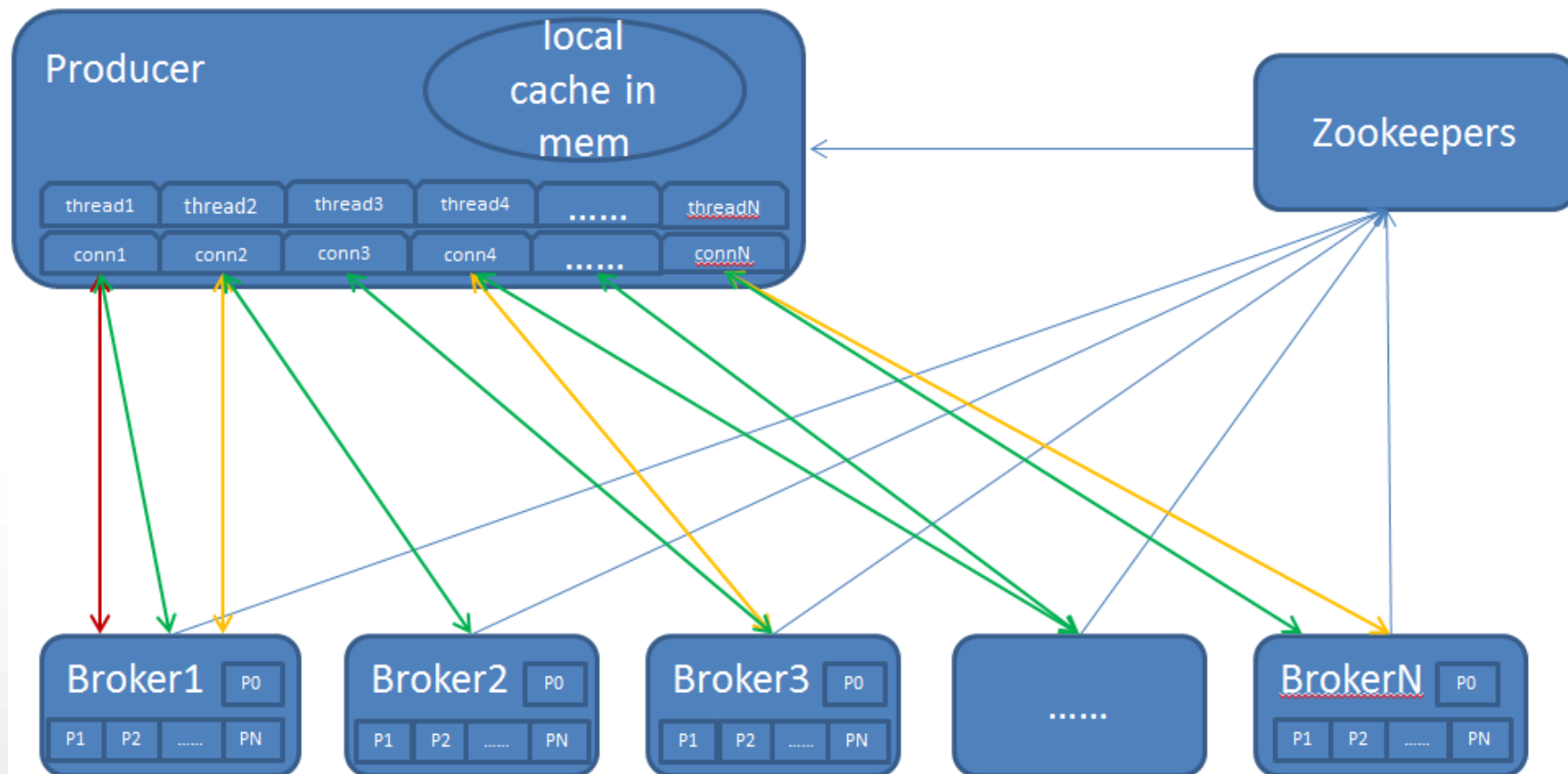a Topic　　a Topic　　Partition 1　　Partition 2
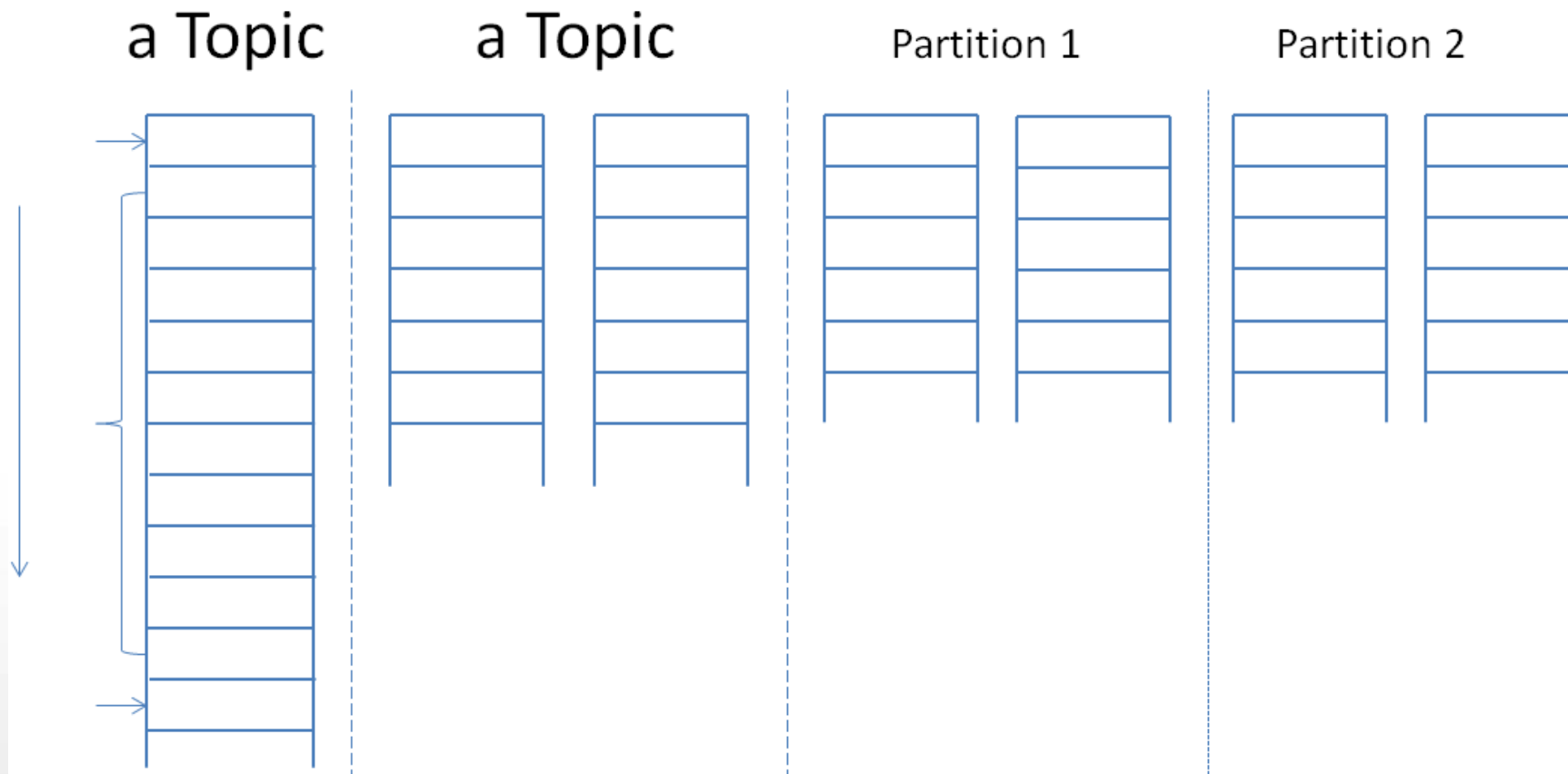
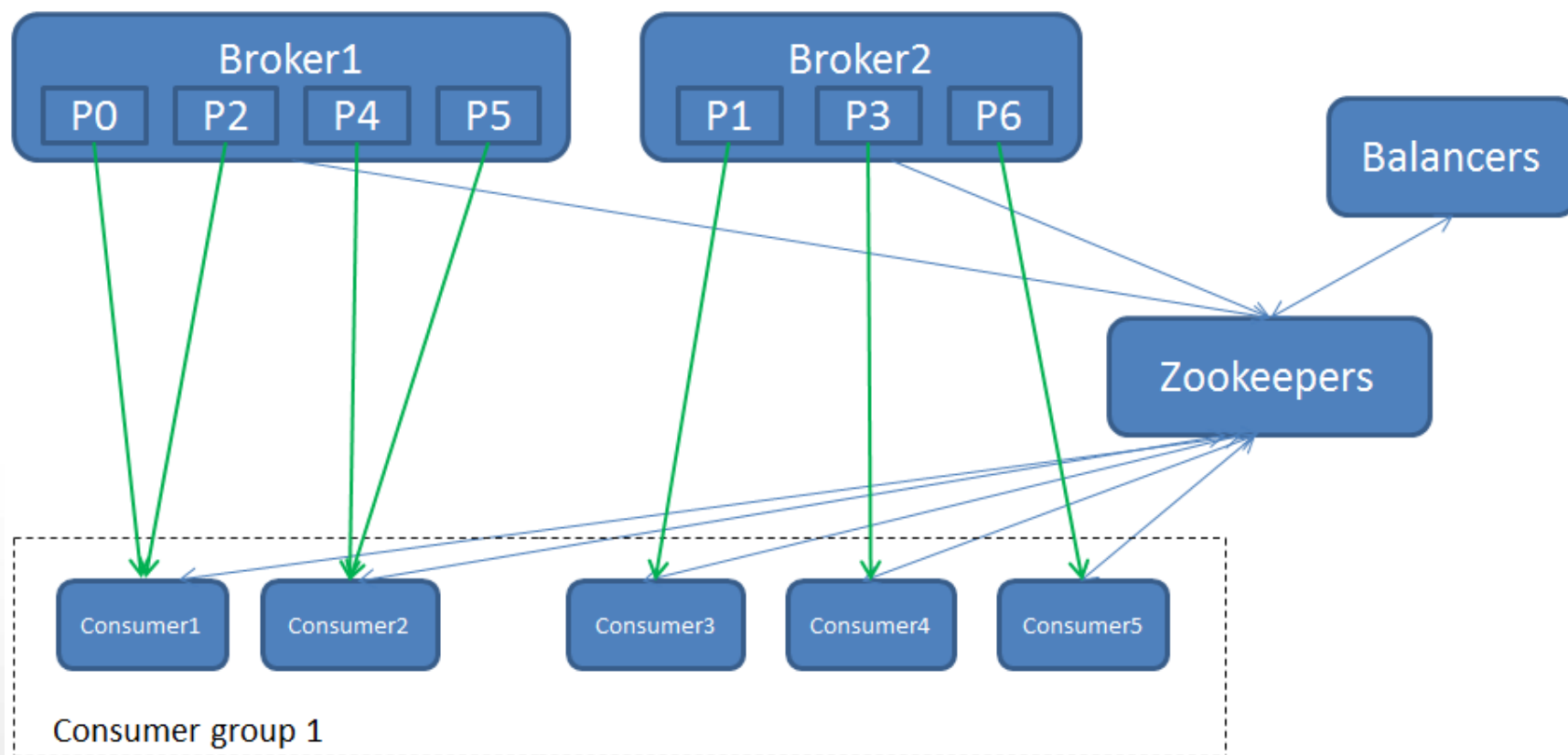# high-throughput
-- Consumer

high-throughput

-- Producer

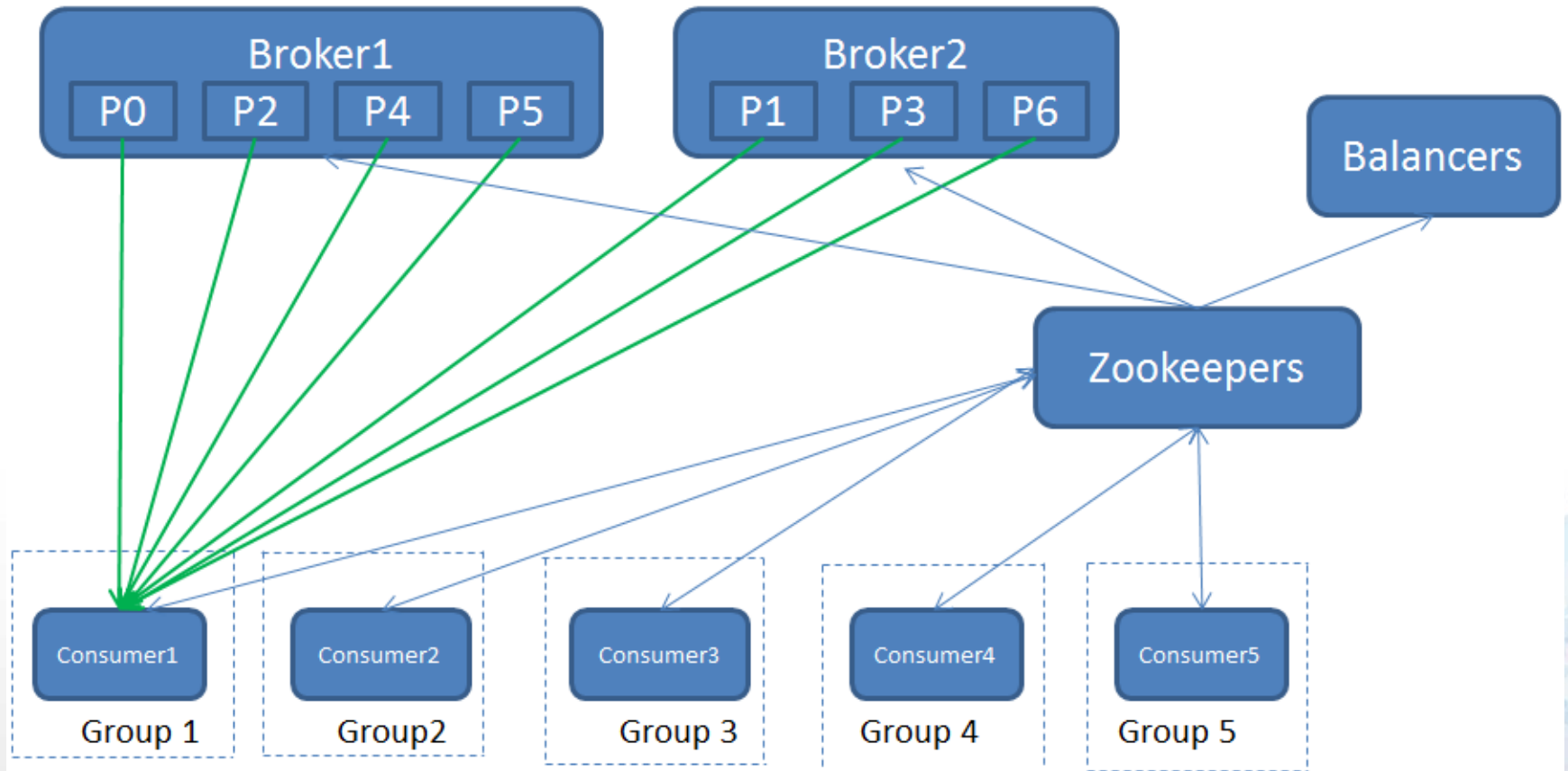sync send mode: 1) random 2) semantic 3) affinity

basic models

-- Message queue

basic models
-- PubSub

daily data

tens of T bytes / day
tens of billions / day

doing & todo

- hadoop & Storm

- trace system

- replay

- message bytes → message numbers

- data center transfer

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Q&A

THANKS

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