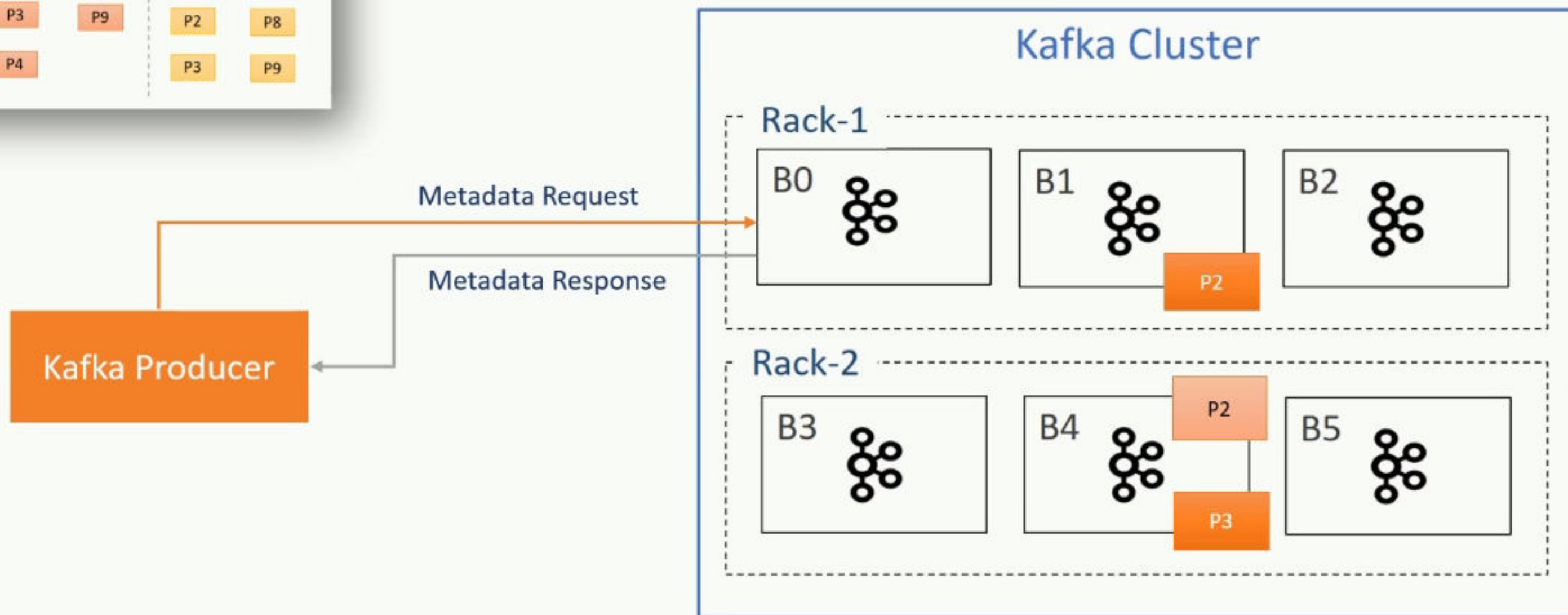


Kafka Architecture

1. Leader Activity
2. Follower Activity

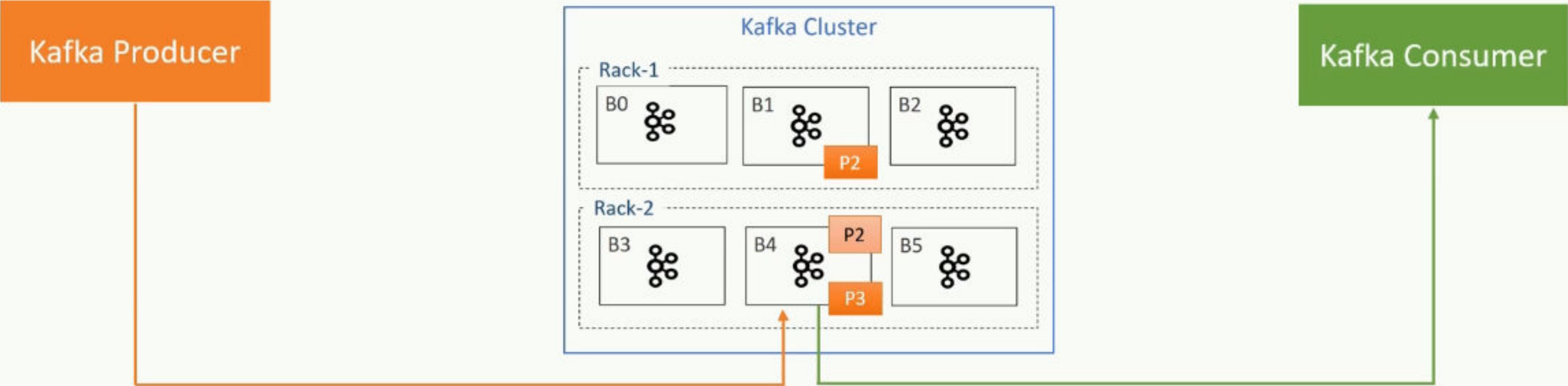
Kafka Architecture

Brokers	Leaders	Followers	Followers
R1-B0	P0	P6	P5
R2-B3	P1	P7	P4
R1-B1	P2	P8	P0
R2-B4	P3	P9	P6
R1-B2	P4		P1
R2-B5	P5		P7
		P3	P8
		P4	P9



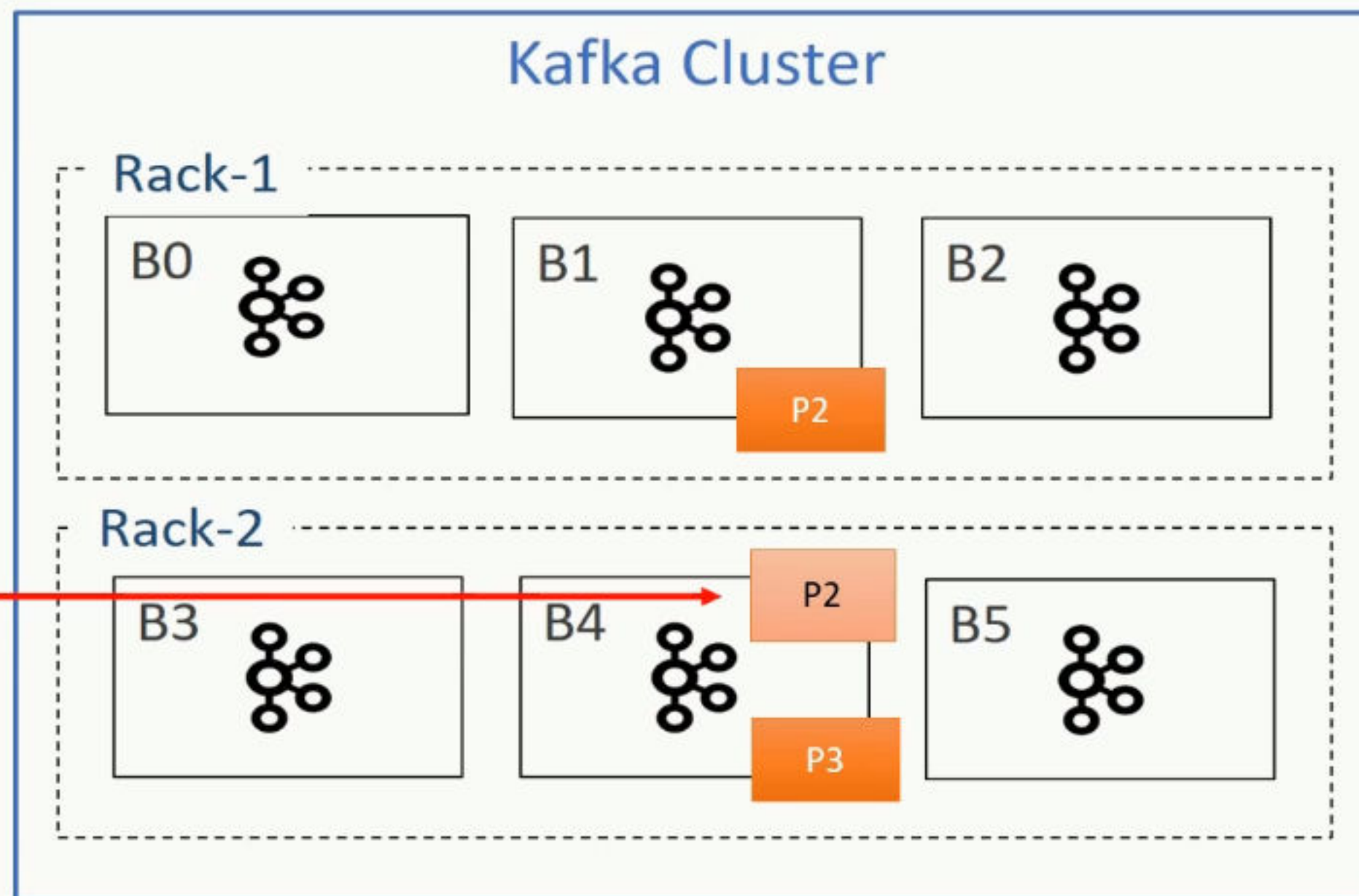
Followers	Leaders	Followers	Followers
R1-B0	P0 P6	P5	P4
R2-B3	P1 P7	P0 P6	P5
R1-B1	P2 P8	P1 P7	P0 P6
R2-B4	P3 P9	P2 P8	P1 P7
R1-B2	P4	P3 P9	P2 P8
R2-B5	P5	P4	P3 P9

Kafka Architecture



Kafka Architecture

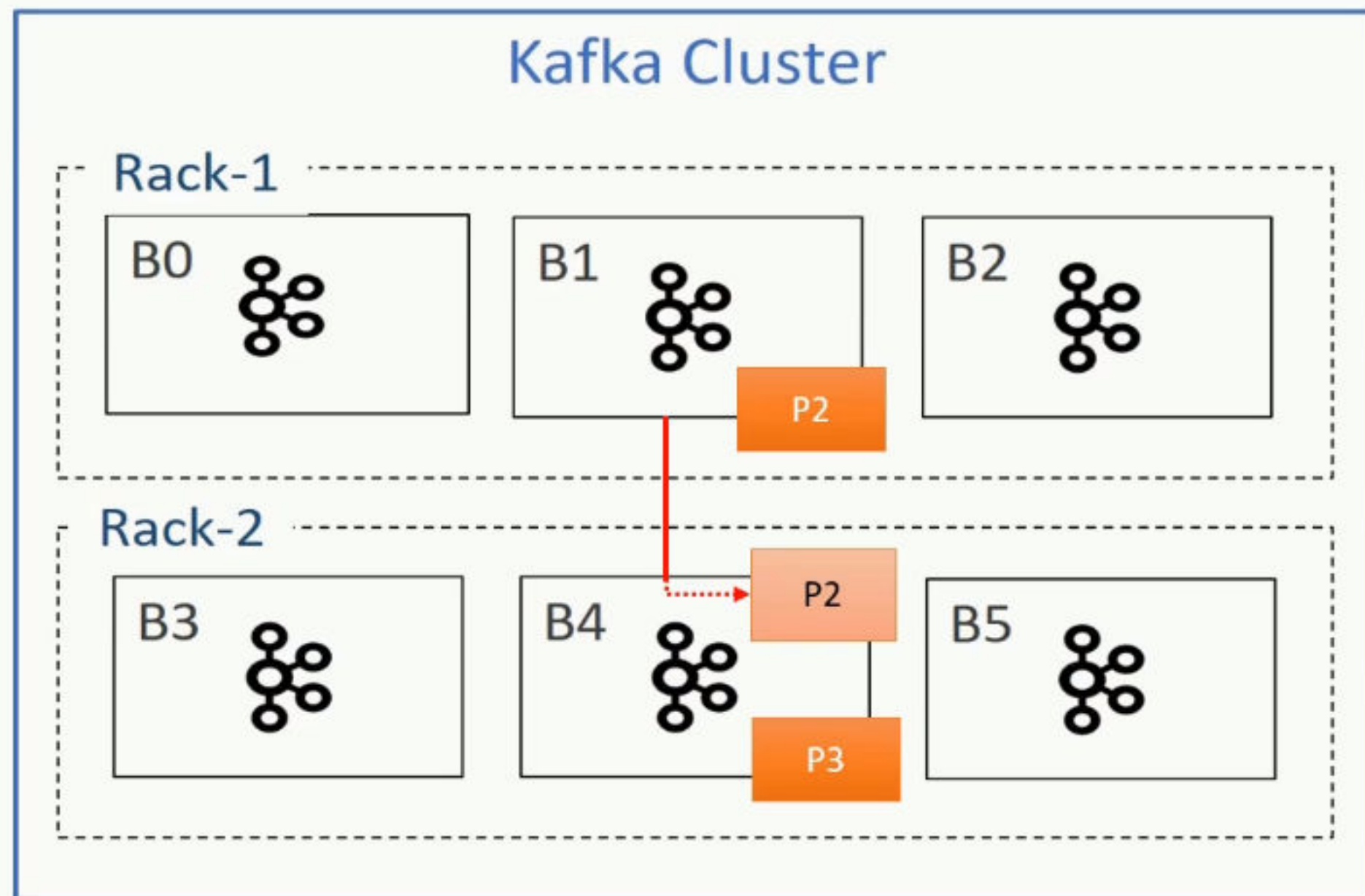
Brokers	Leaders	Followers	Followers
R1-B0	P0	P6	P5
R2-B3	P1	P7	P4
R1-B1	P2	P8	P5
R2-B4	P3	P9	P6
R1-B2	P4	P0	P7
R2-B5	P5	P1	P8
		P2	P3



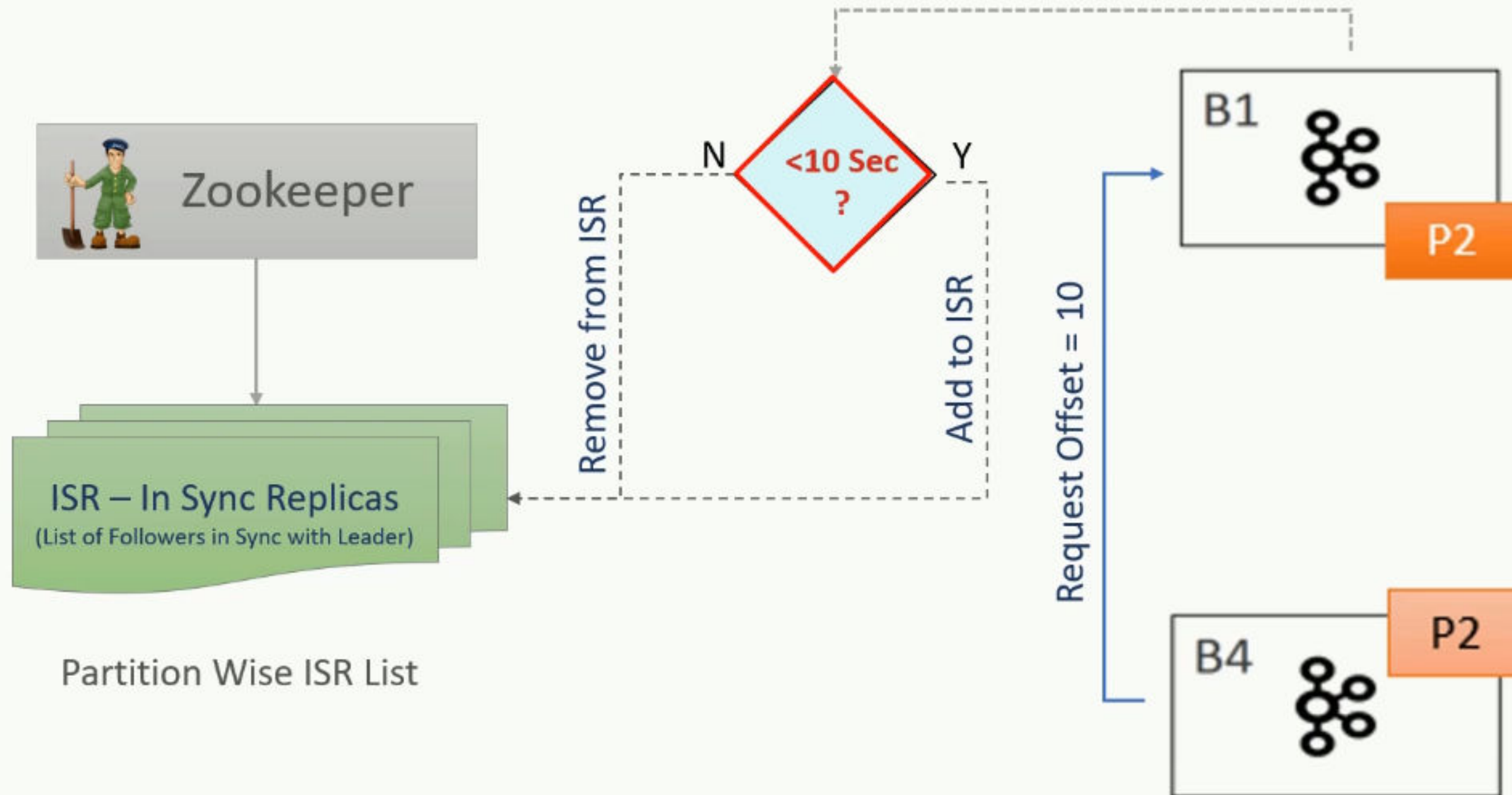
Kafka Architecture

Brokers	Leaders		Followers		Followers	
R1-B0	P0	P6		P5		P4
R2-B3	P1	P7	P0	P6		P5
R1-B1	P2	P8	P1	P7	P0	P6
R2-B4	P3	P9	P2	P8	P1	P7
R1-B2	P4		P3	P9	P2	P8
R2-B5	P5		P4		P3	P9

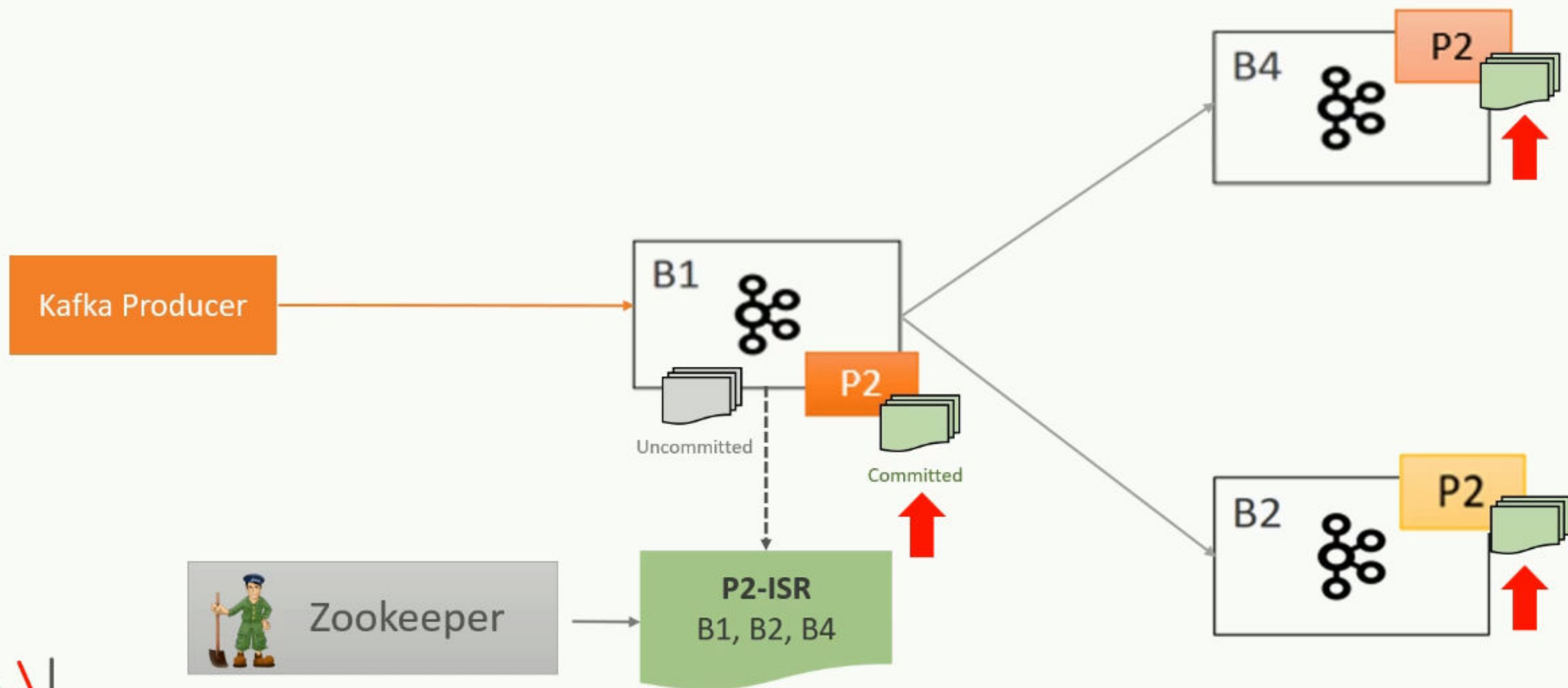
1. Network Congestion
2. Follower Broker Crash/Restart.



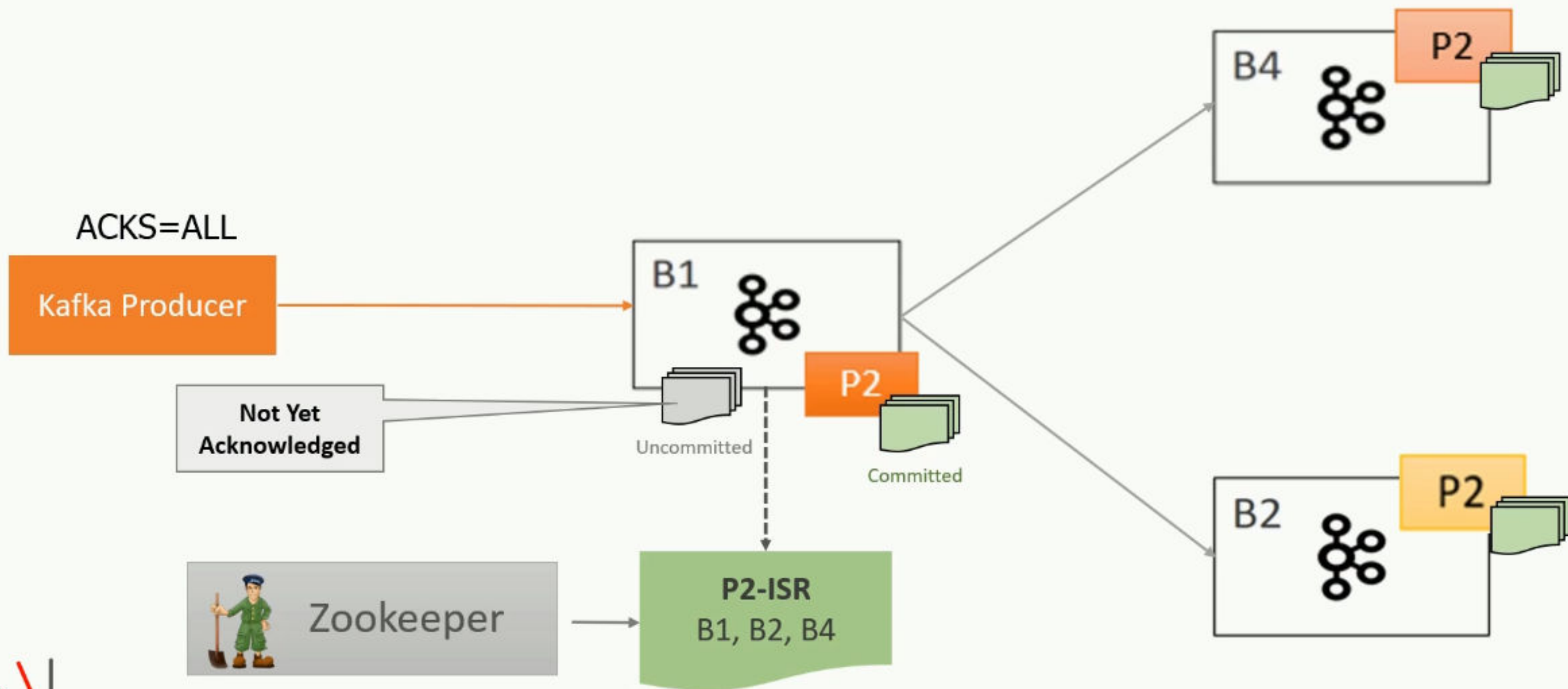
Kafka Architecture



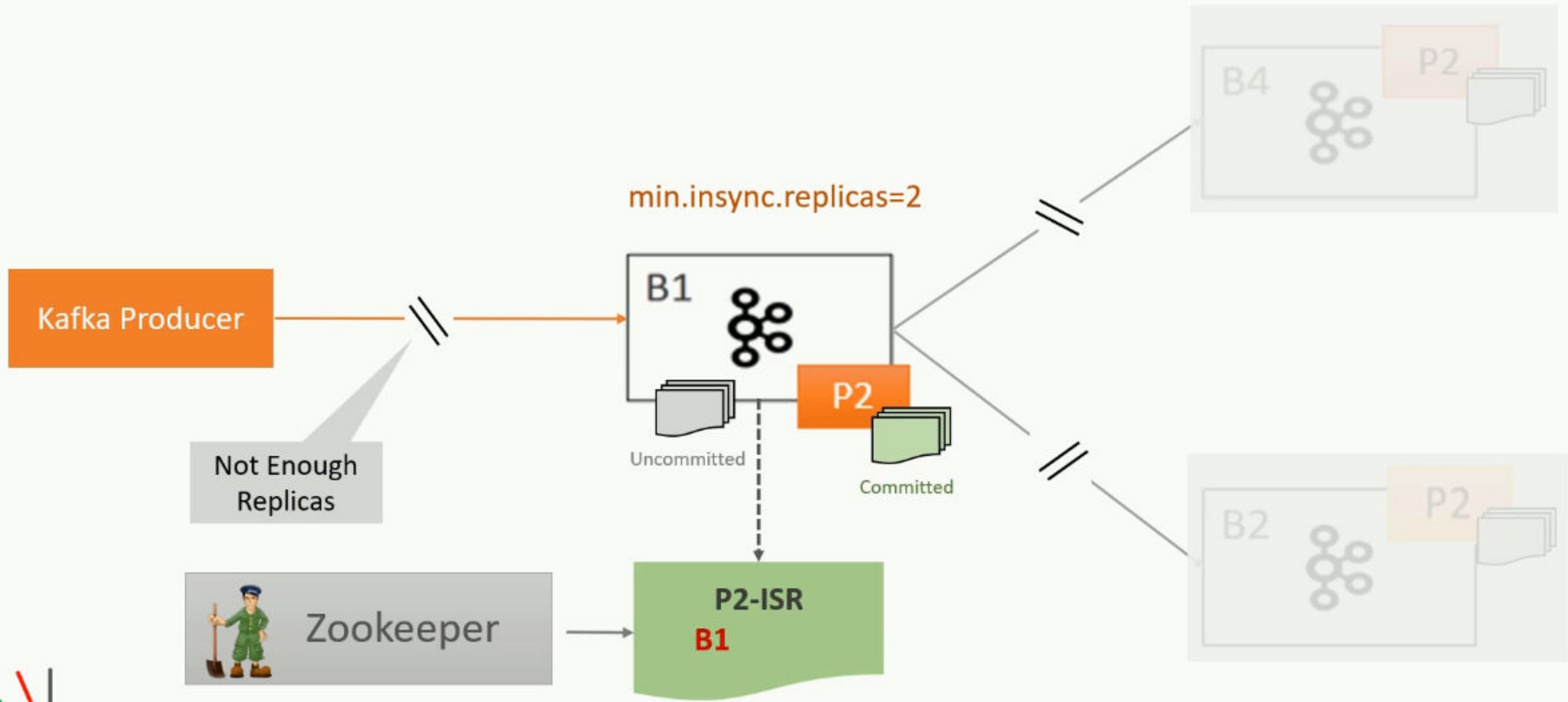
Kafka Architecture



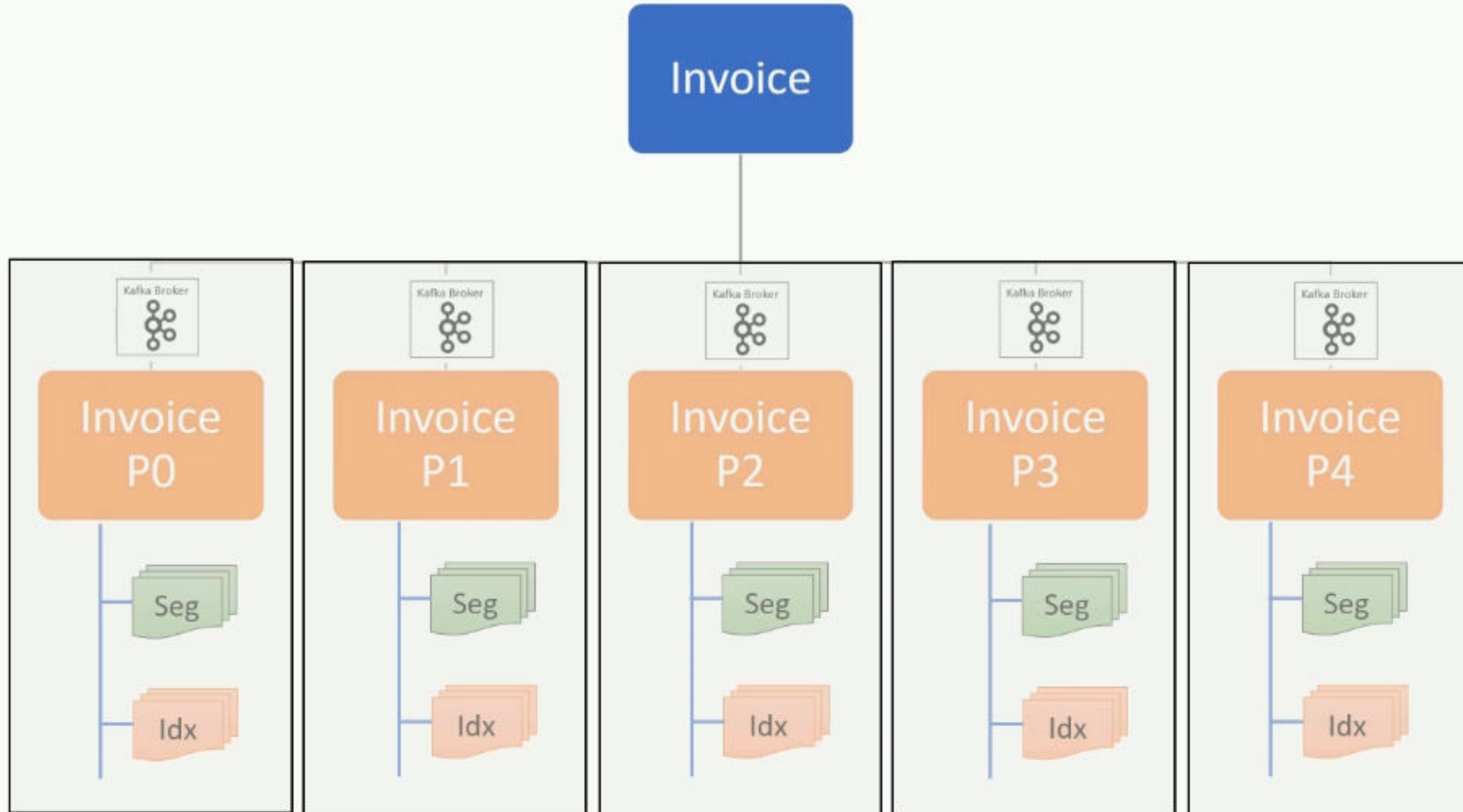
Kafka Architecture



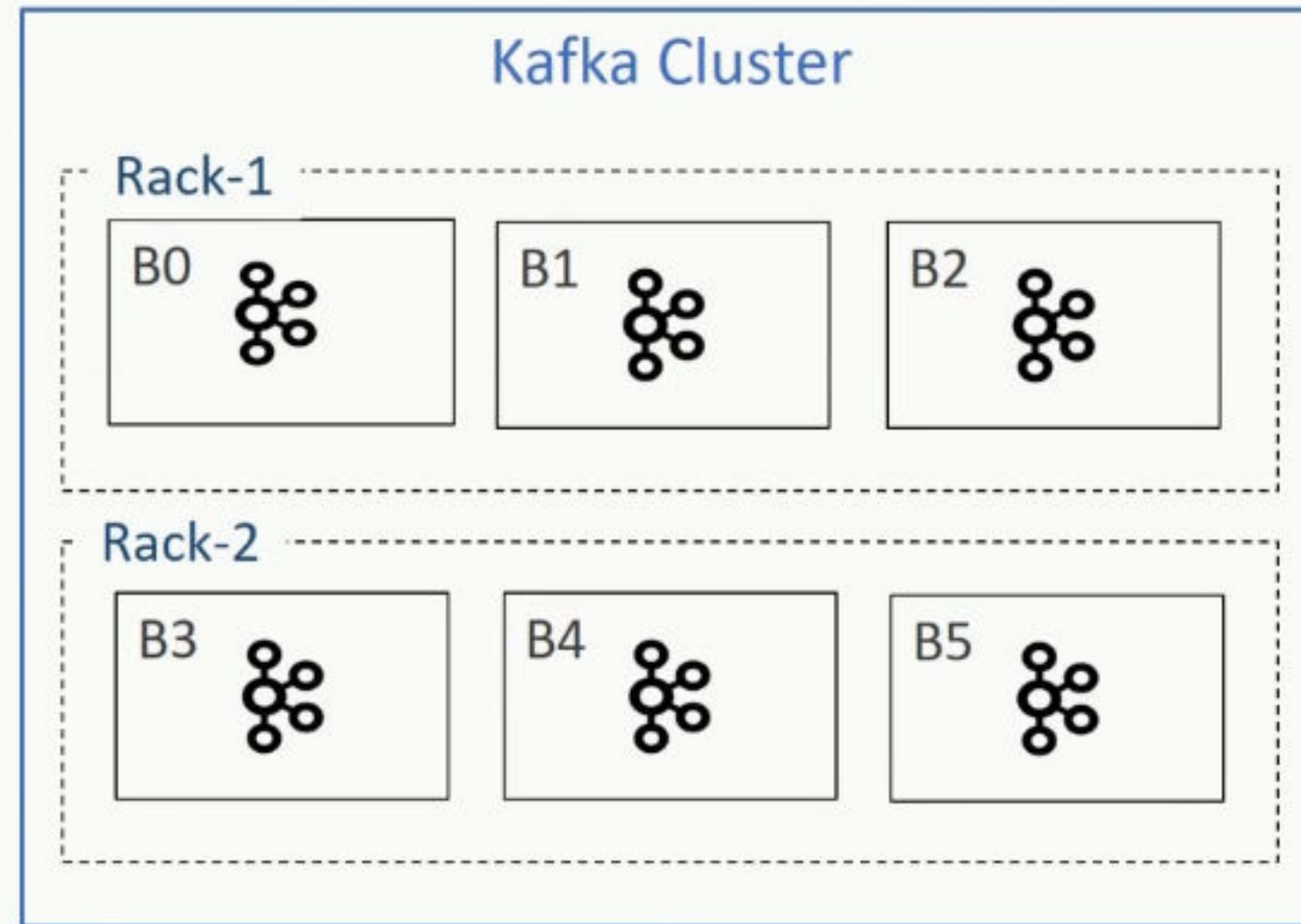
Kafka Architecture



Kafka Architecture



Partition Assignment



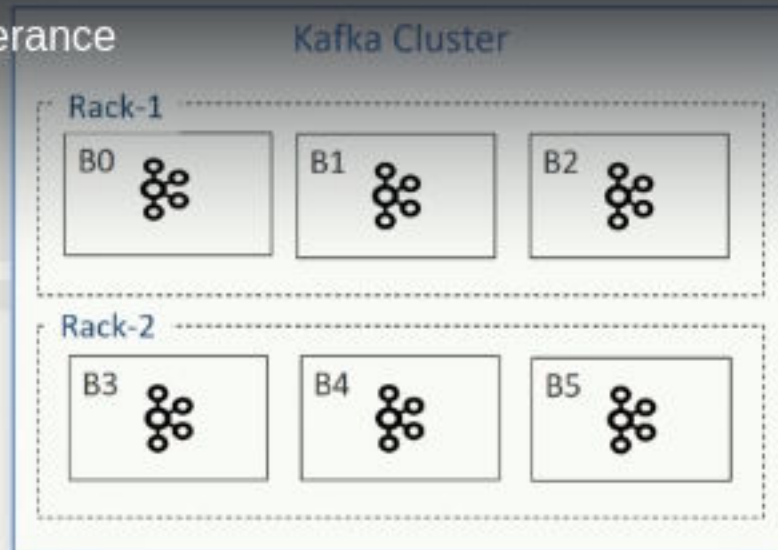
Topic - Invoice

- | | | |
|-----------------------|----|----|
| 1. Partitions | -> | 10 |
| 2. Replication Factor | -> | 3 |



Total Replicas = 30

- | |
|----------------------|
| 1. Even Distribution |
| 2. Fault Tolerance. |









Partition Assignment

1. Ordered List of Brokers
- ➔ 2. Leader and Followers Assignment







Partition Assignment

P0	P0	P0
P1	P1	P1
P2	P2	P2
P3	P3	P3
P4	P4	P4
P5	P5	P5
P6	P6	P6
P7	P7	P7
P8	P8	P8
P9	P9	P9







Brokers	Leaders	Followers	Followers
R1-B0 			
R2-B3 			
R1-B1 			
R2-B4 			
R1-B2 			
R2-B5 			

Partition Assignment

P0	P0
P1	P1
P2	P2
P3	P3
P4	P4
P5	P5
P6	P6
P7	P7
P8	P8
P9	P9

Brokers	Leaders		Followers	
R1-B0 	P0	P6		
R2-B3 	P1	P7		
R1-B1 	P2	P8		
R2-B4 	P3	P9		
R1-B2 	P4			
R2-B5 	P5			

Partition Assignment

Brokers	Leaders		Followers		Followers	
R1-B0 	P0	P6		P5		P4
R2-B3 	P1	P7	P0	P6		P5
R1-B1 	P2	P8	P1	P7	P0	P6
R2-B4 	P3	P9	P2	P8	P1	P7
R1-B2 	P4		P3	P9	P2	P8
R2-B5 	P5		P4		P3	P9

Partition Assignment

