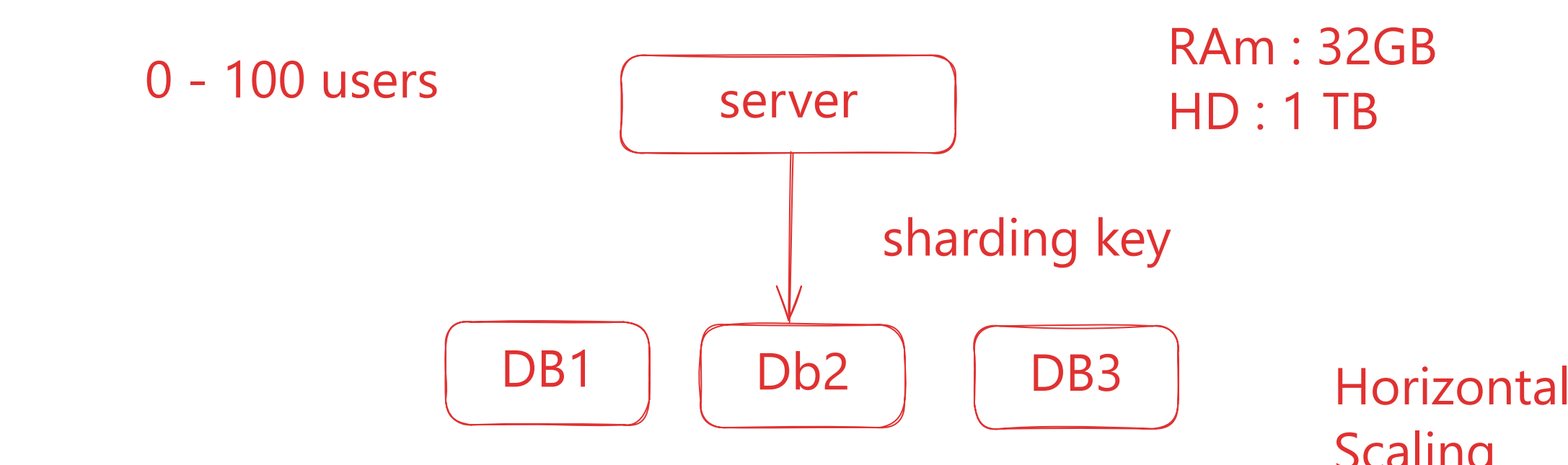
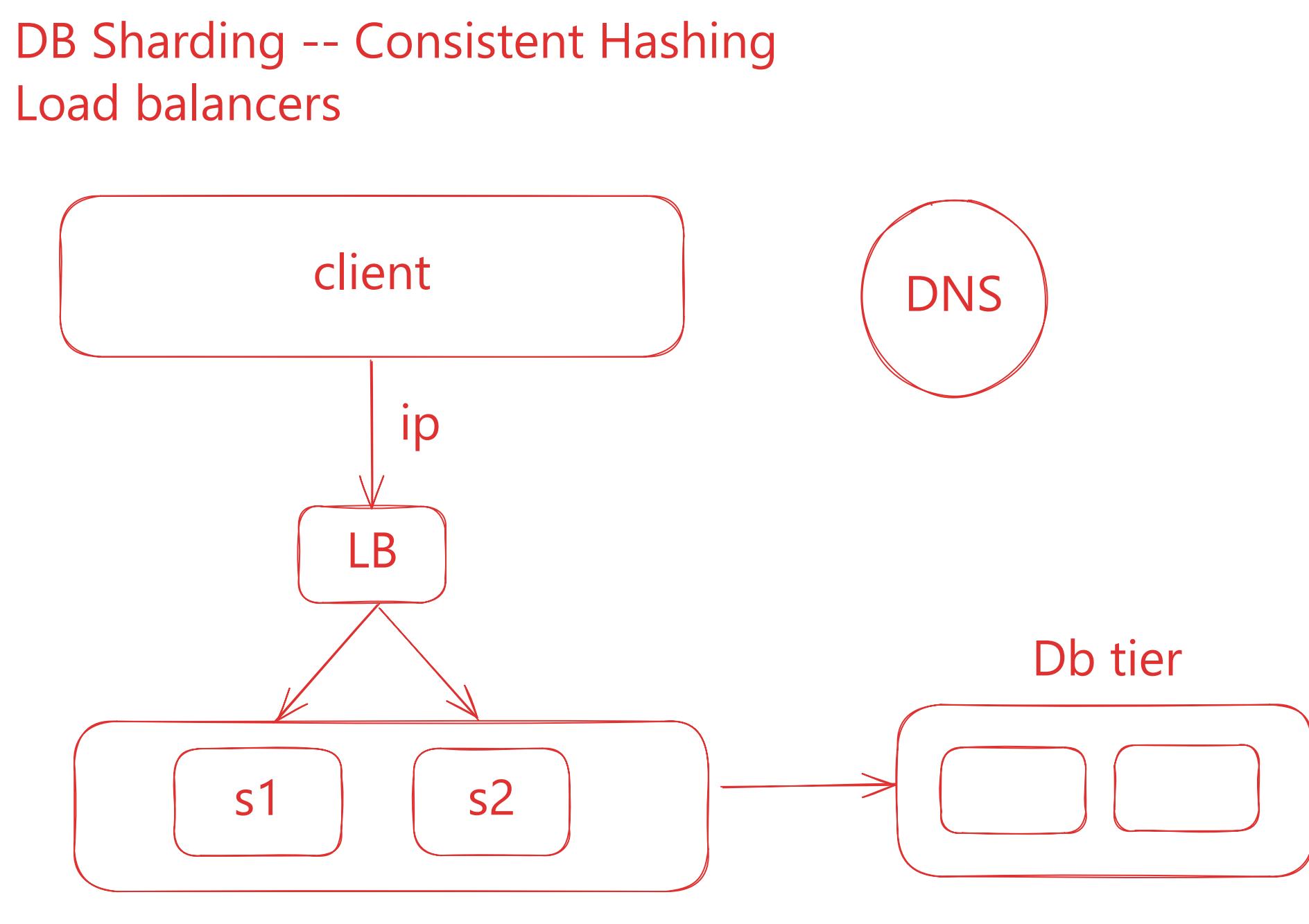
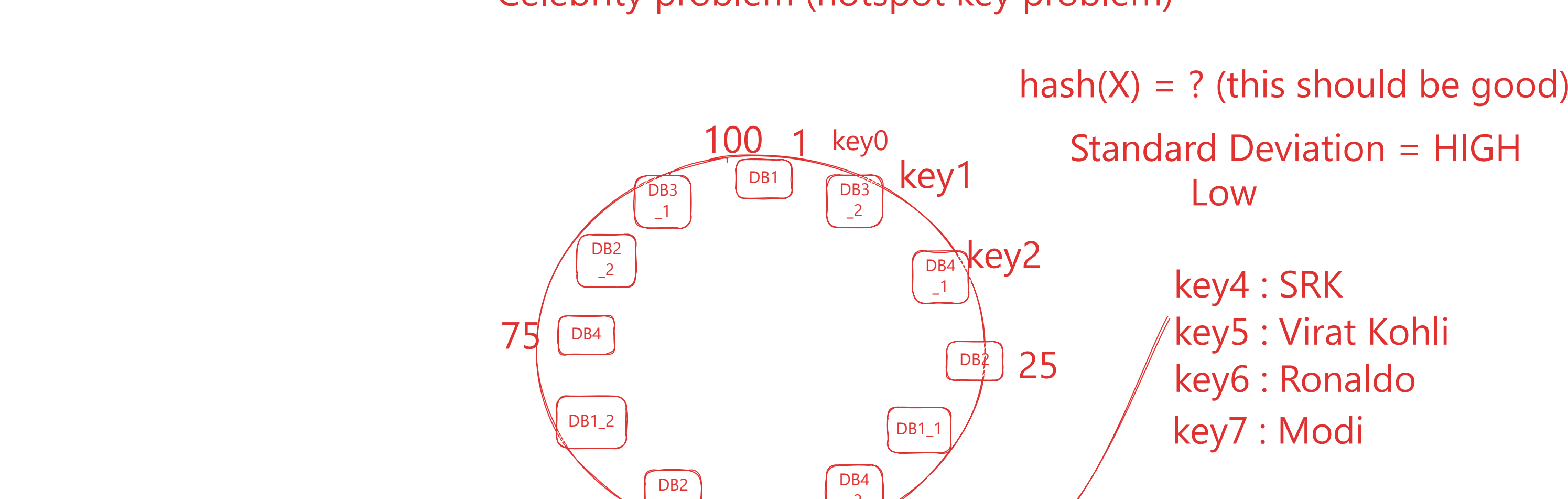
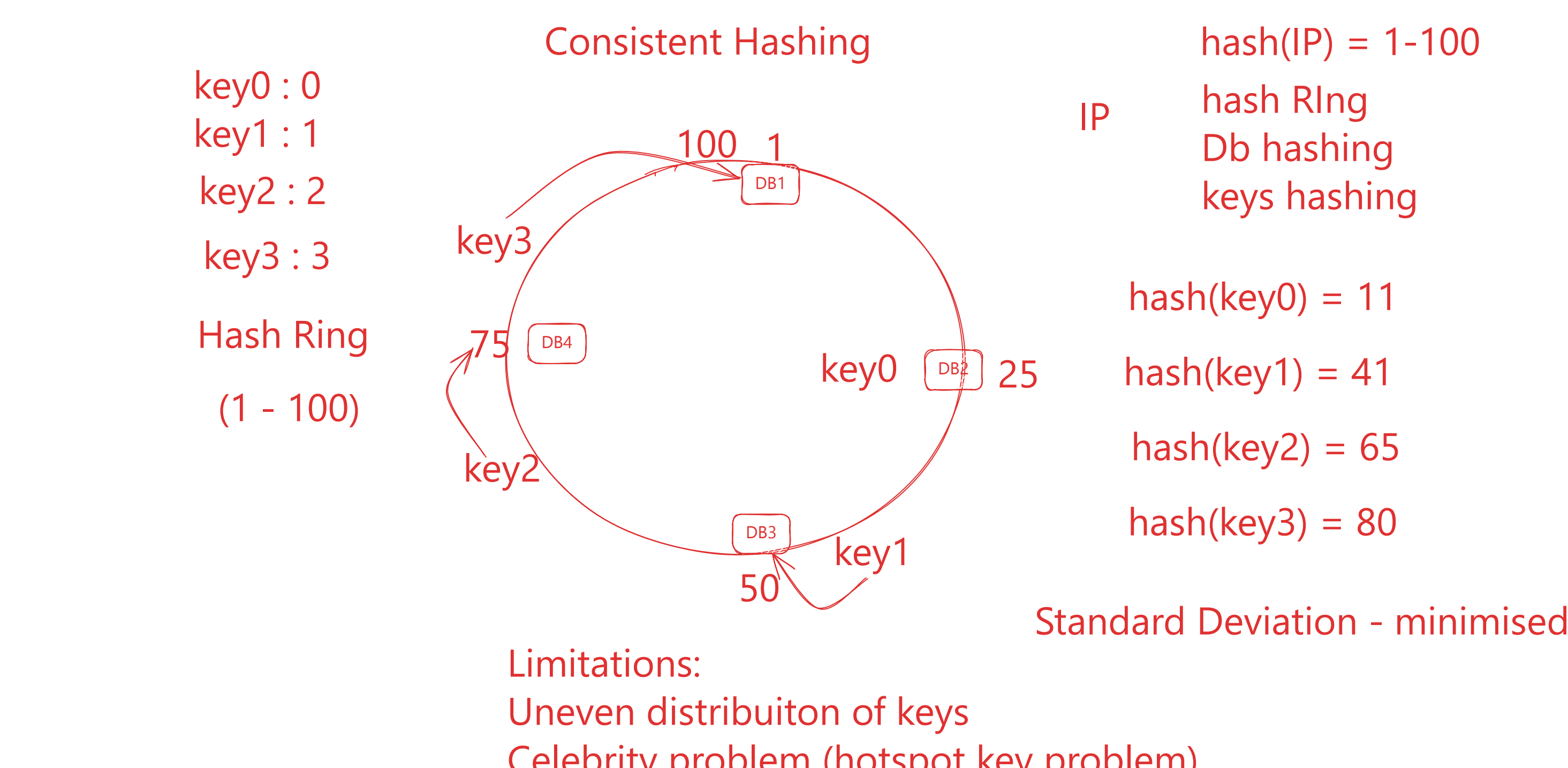
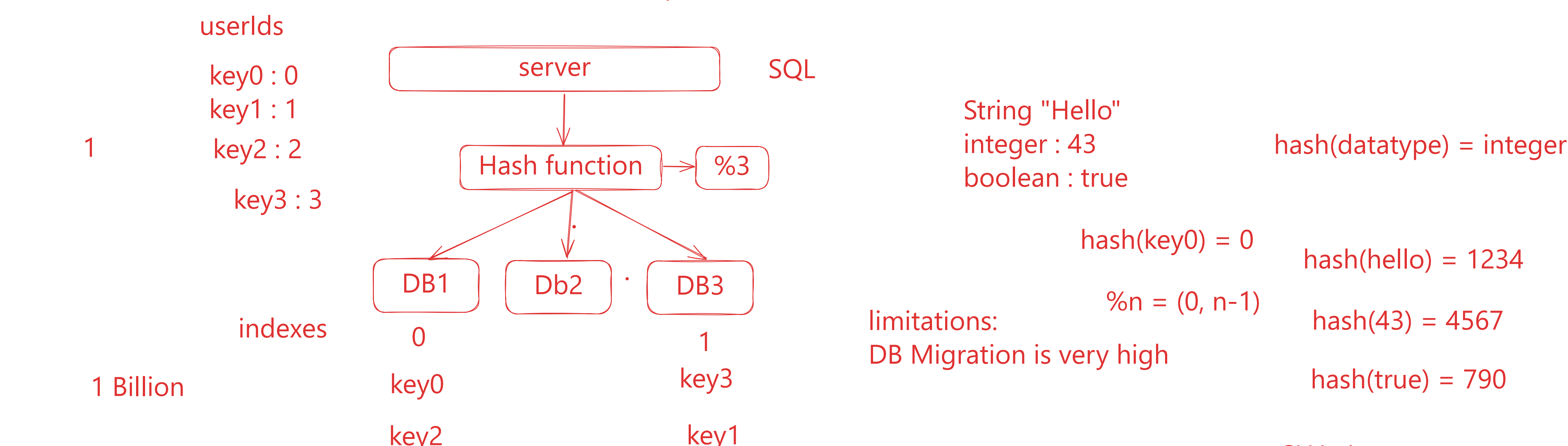


DB Sharding -- Consistent Hashing

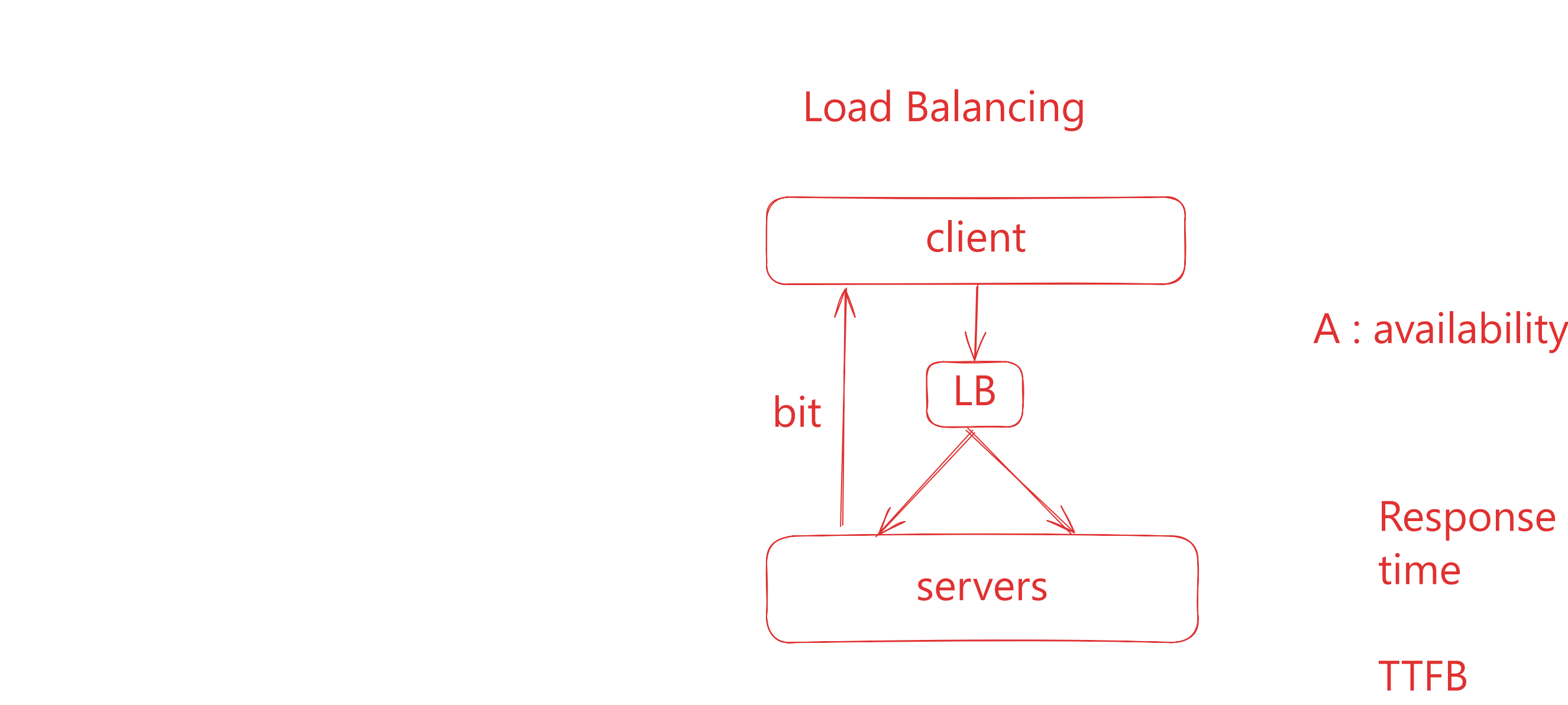
Load balancers



Hash methods. --> Modulo Operator



Virtual Nodes (Replicas of Original Nodes)



Applications of LB: (Smart)

- Scalability: Auto scaling
- Availability
- Security
- Responsiveness (Thread pool)

Security: DOS, DDOS

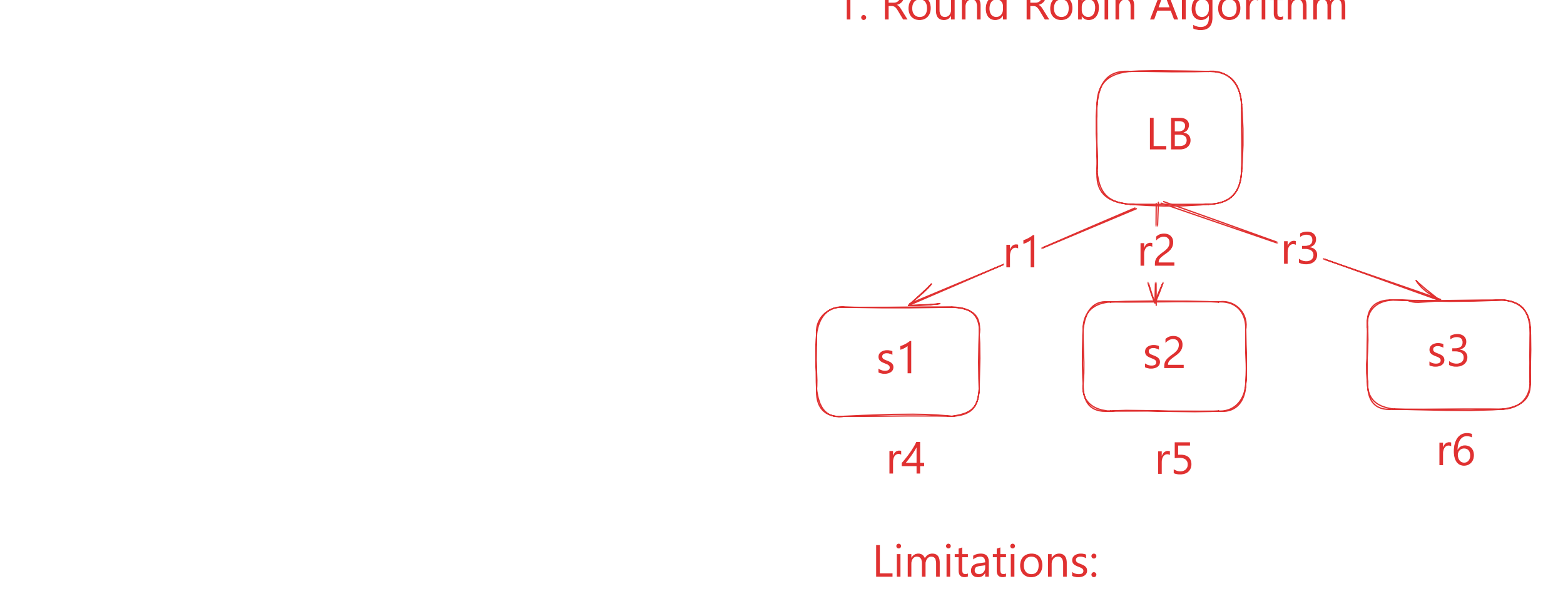
Firewalls calls

Algorithms of LB

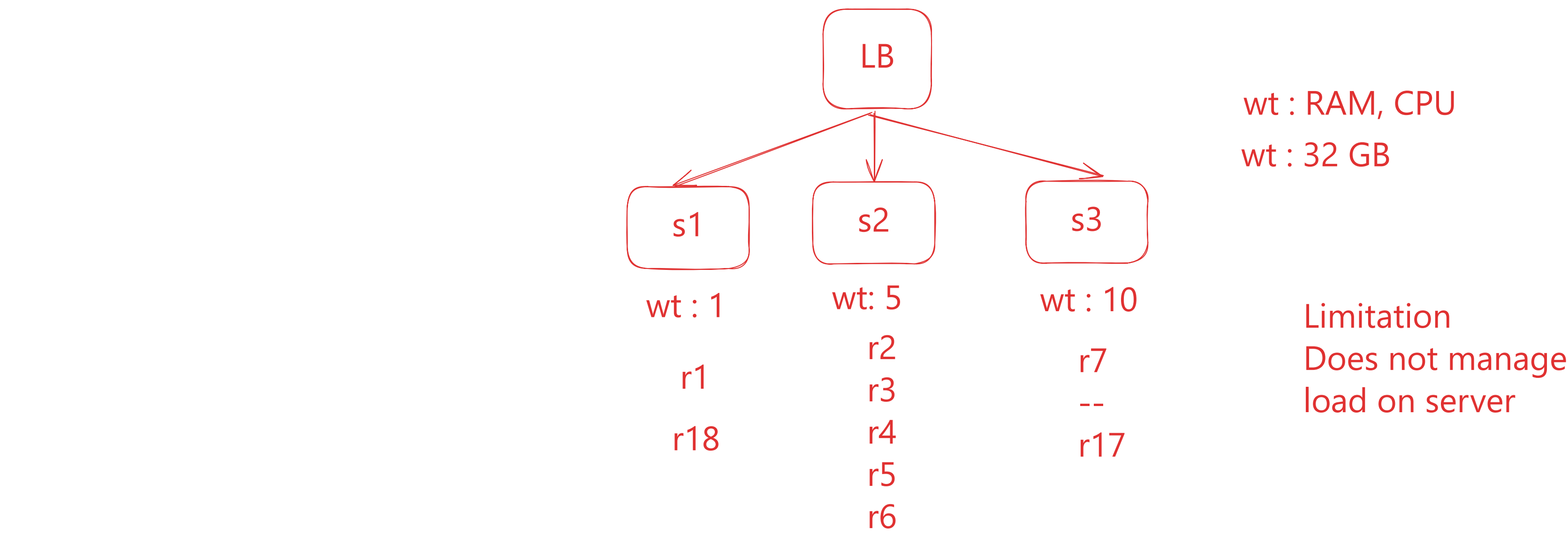
- Static LB
- Dynamic LB

Static LB's Algorithms:

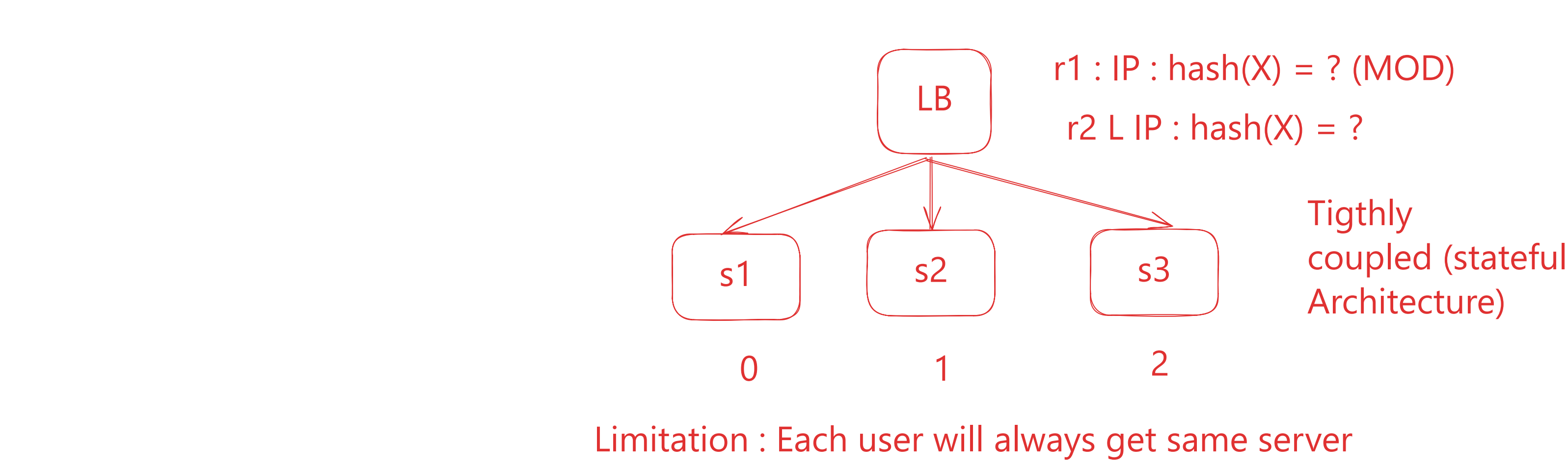
1. Round Robin Algorithm



2. Weighted Round Robin Algorithm



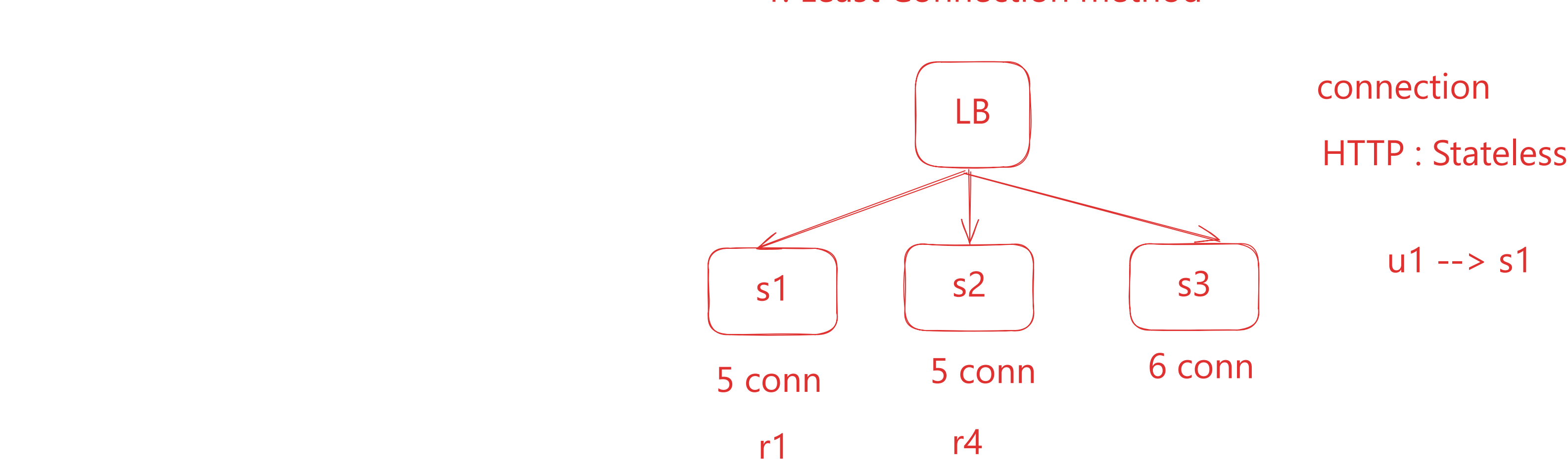
3. IP Hashing



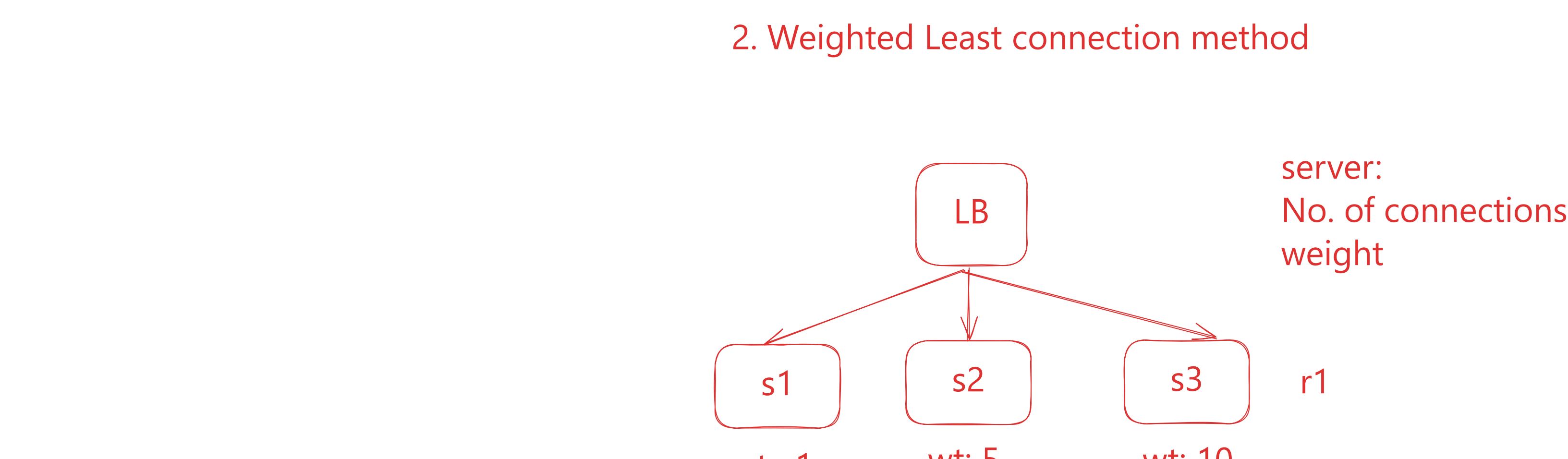
2. Proxy (VPN) : IP

Dynamic LB Algorithms

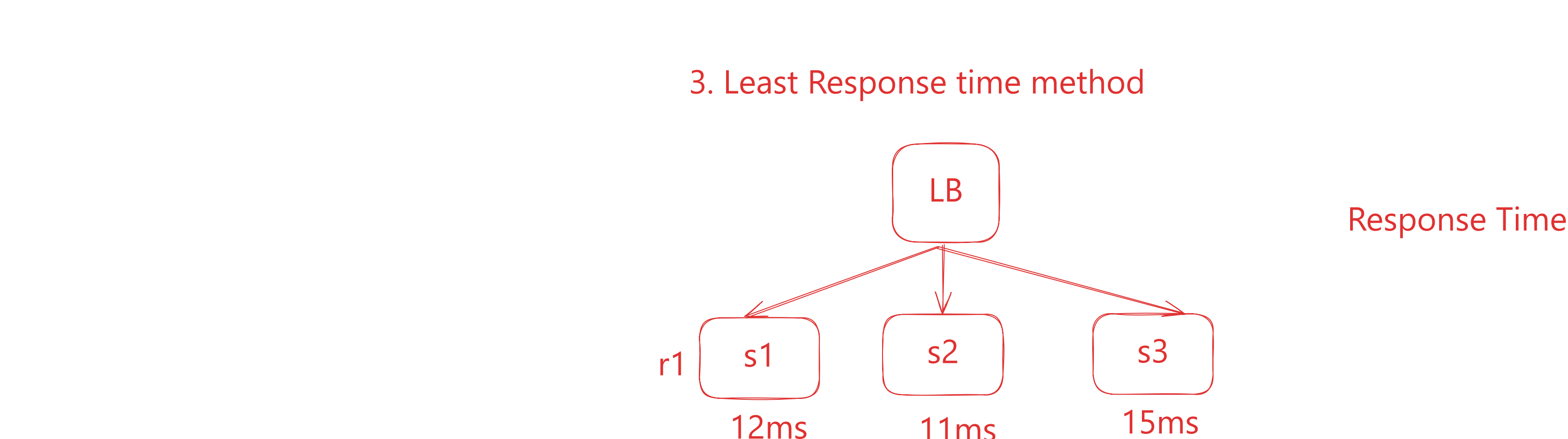
1. Least Connection method



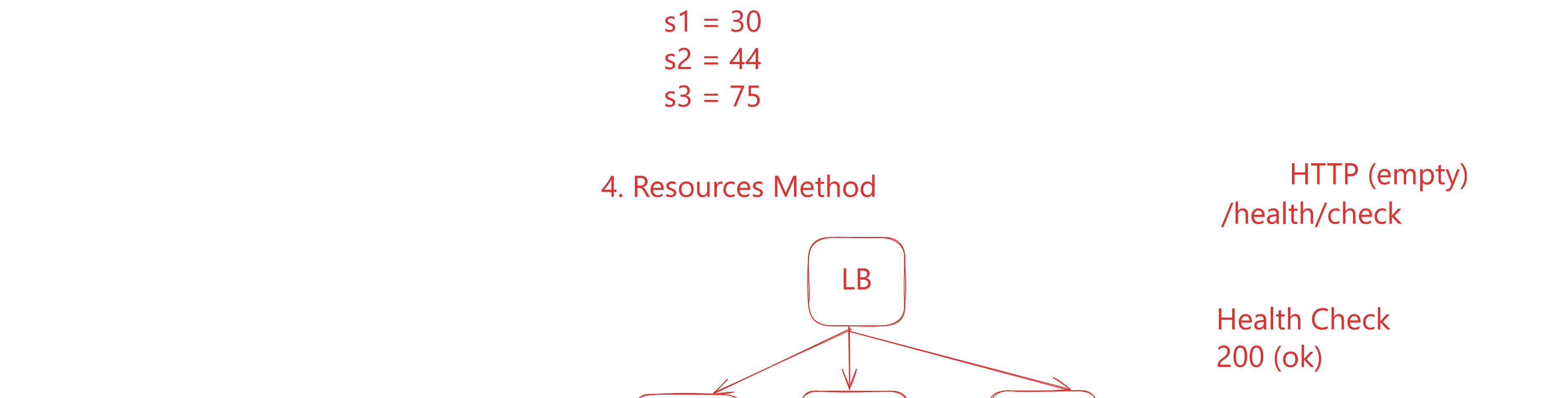
2. Weighted Least connection method



3. Least Response time method

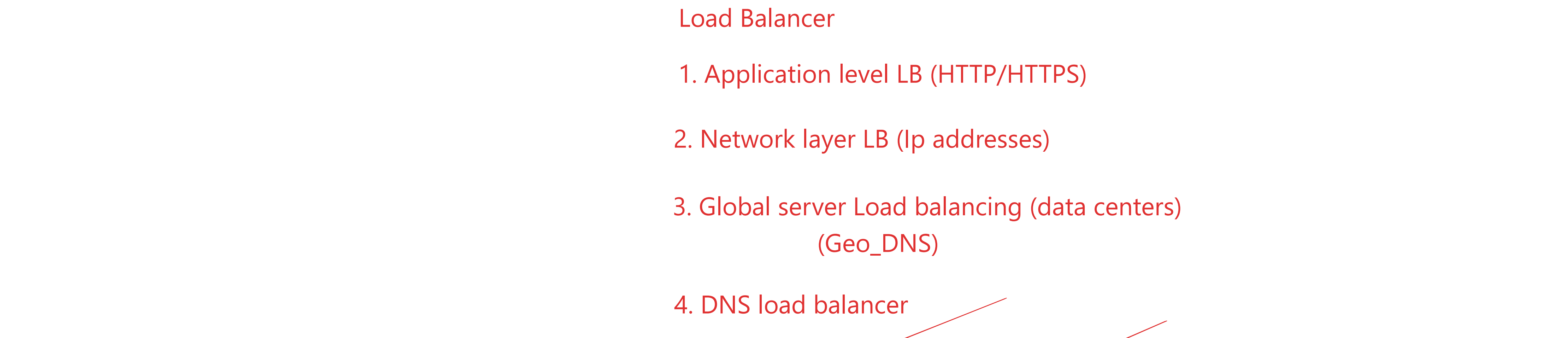


4. Resources Method



Load Balancer

- 1. Application level LB (HTTP/HTTPS)
- 2. Network layer LB (Ip addresses)
- 3. Global server Load balancing (data centers) (Geo,DNS)
- 4. DNS load balancer



Types of LB

