Load Balancing

1. Software defined
2. Hardware defined

Types of Load Balancer Configuration

1. Round Robin

Advantages

* Cost Effective
* Limited Resource

Disadvantages

* Does not feedback from the server whether it is full or not

1. Weighted Round Robin

One Powerful Server-A (higher weight), B, C-Two low power server (lower weight)

3:2:1  
A:B:C

First 3 requests to server A, next two to server B and the last one to server C.

1. Least Connection Load Balancing – “It is a Dynamic Load Balancing algorithm where clients’ requests are distributed to application server with the least number of active connections at the time the client request is received.”

Least number of active connections for a particular server (AWS uses this)

Continuously takes feedback from all the servers

Advantages

* Resource Utilization is good
* Cost effective

Disadvantage

* Sudden spikes cannot be easily handled here

1. Weighted Least Connection Load Balancing - Almost the same as the above but in the above one secondary will be shutdown irrespective of the number of connections, here the one with the least number of connections will be shutdown based on the threshold
2. Resource Based Load Balancing – Decision based status Indicator

There will be a machine – Load Balancing Machine

There will be other Load balancing servers to which the traffic will be dynamically mapped

1. Resource Based SDN (Software Defined Networks)

**Horizontal and Vertical Scaling**

*Horizontal*: n – servers

Load Balancing

Remote procedure calls will be a little slow, because of the hopping time

Data inconsistency for small time can occur because of hopping time

Well scaled as user increases

*Vertical*: Single Powerful server

Remote procedure calls will be fast, because data will be cached and it will be fast

Data inconsistency will not be present

There is a hardware limit that applies here

## Concurrent Connections

Single Core - 220-250 Concurrent Connections – Bandwidth should be good and also depends on RAM also

Two Core – 500 Concurrent Connection – Bandwidth should be good and also depends on RAM also