Architecture Design for Chat Backend

Block Diagram Based on Single Region

A

C

B

A

C

B

A

C

B

Ingest

Query

Database

VIP

ADDRESS

VIP

ADDRESS

VIP

ADDRESS

URL

ADDRESS

USER

USER

USER

What is Ingest?

Which takes traffic of PUT/POST of users, PUT and POST of messages

What is Query?

Which takes traffic of GET of users and messages

What is Database?

Which is used to store data into MySQL, Cassandra like….

Why?

* Cluster of three nodes on ingest, query and database were consider to support traffic and load, when any other one node go faulty, other two will handle the load without any delay
* In Cluster of three nodes, when the data is received in A node, it replica will be kept in both B node and C node
* VIP address were selected so load balancer will take care of transfer the load for both ingest and query

***How Scaling can be supported***

* Can be done by adding more nodes in a cluster or

A

Z

* Cluster of three can be added more

A

C

B

A

C

B

Region wise data replica

* Data from one region can be replicated to another region on daily or weekly basis…
* When a person moves from one region to another, the data can be collected from replicated database , using separate Load balancer with VIP address.

A

C

B

A

C

B

Replicate Database

Database

VIP

ADDRESS

VIP

ADDRESS

URL

ADDRESS

USER

USER

USER

* Like three cluster system, each region data will be replicated to next two regions and it forms a circle. So Each region will have its region data in blue cluster and one yellow cluster will have replicated data from other region

Region A

Region C

Region B