



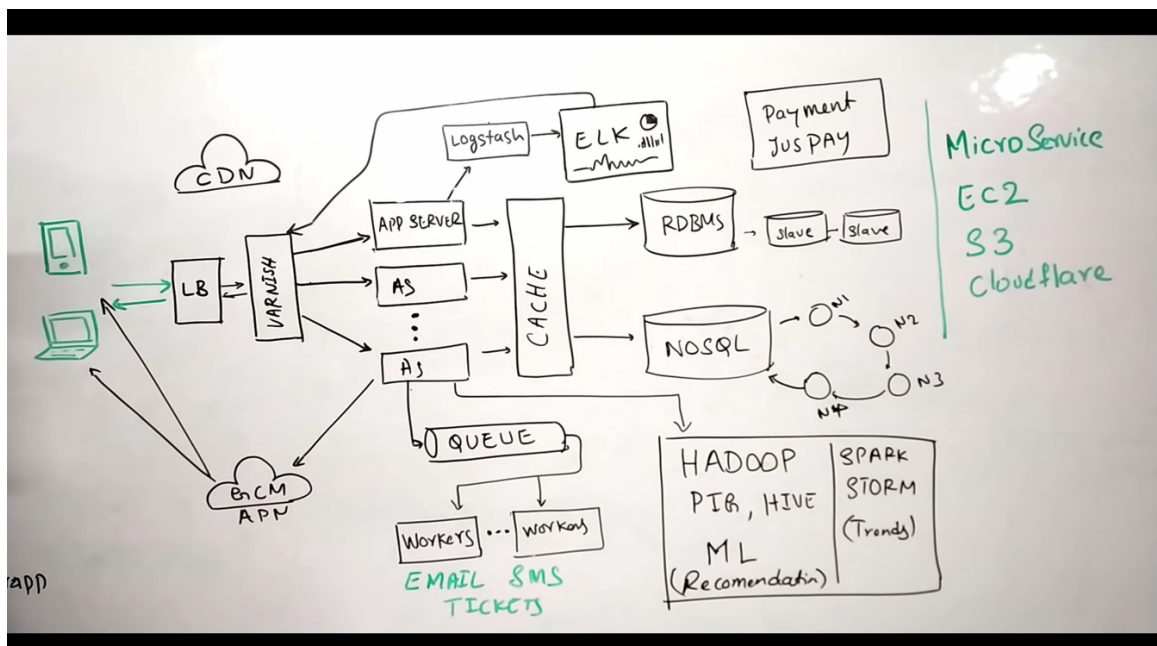
SYSTEM DESIGN

Youtube

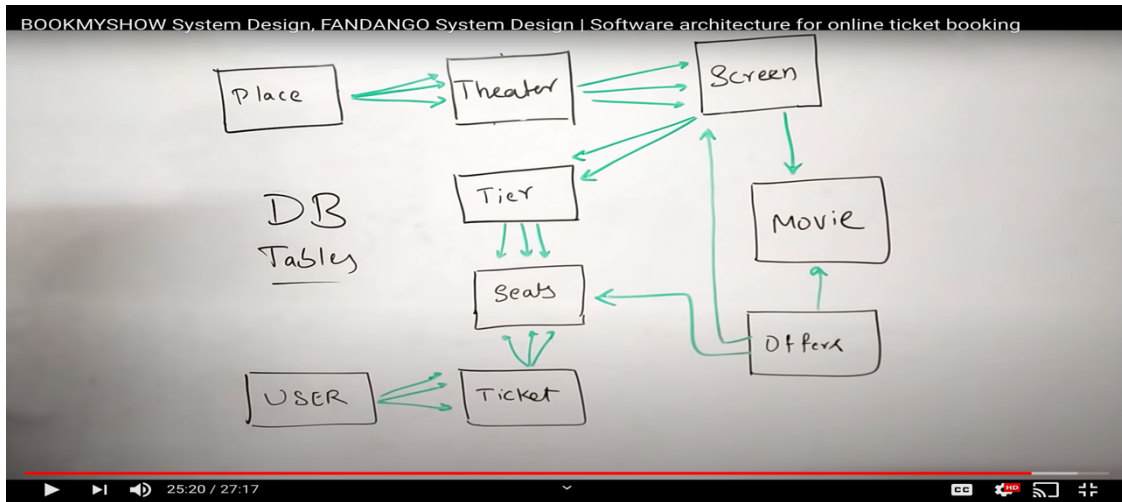


Book My show

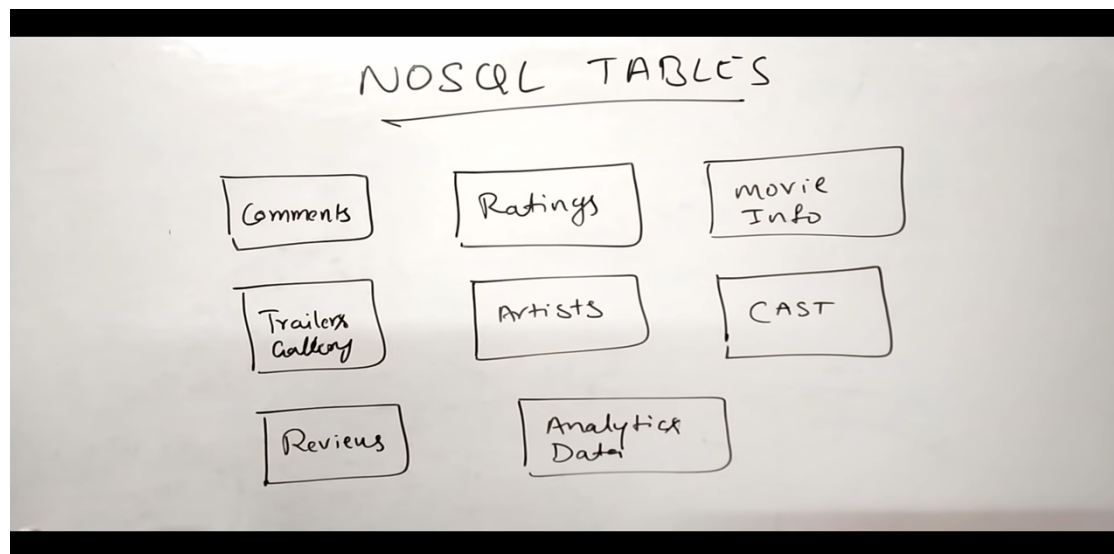
- CDN - to store pages in cache
- VARNISH - to improve ui cache
- elk - search improving
- RDBMS - not changing constant - have slaves- for transaction
- movie/actor/rating- kepps changes - too many data (NOsql Casandra DB) - availability
- queue- rabbit MQ- email tickets- workers will execute these sms/emails



- Business intelligence - Hadoop platform- HDFS /ML/User Graph/Recommendation
- KAfka+SparK Storm - for trending vedios - fraud detection
- payment gateway- justpay
- isp/location - to track near by movies
- EC2- All the app server (AS)/Queue are hosted on AWS



- Servers- Springboot/Tomcat
- cache- hazelcast <https://hazelcast.com/use-cases/caching/>
- logstash-ELK- for push and monitoring logs
- Kibbana dashboard- to check error log
- Load balancer - nginx



For more : <https://www.youtube.com/watch?v=JQDH72OA3c>

Netflix

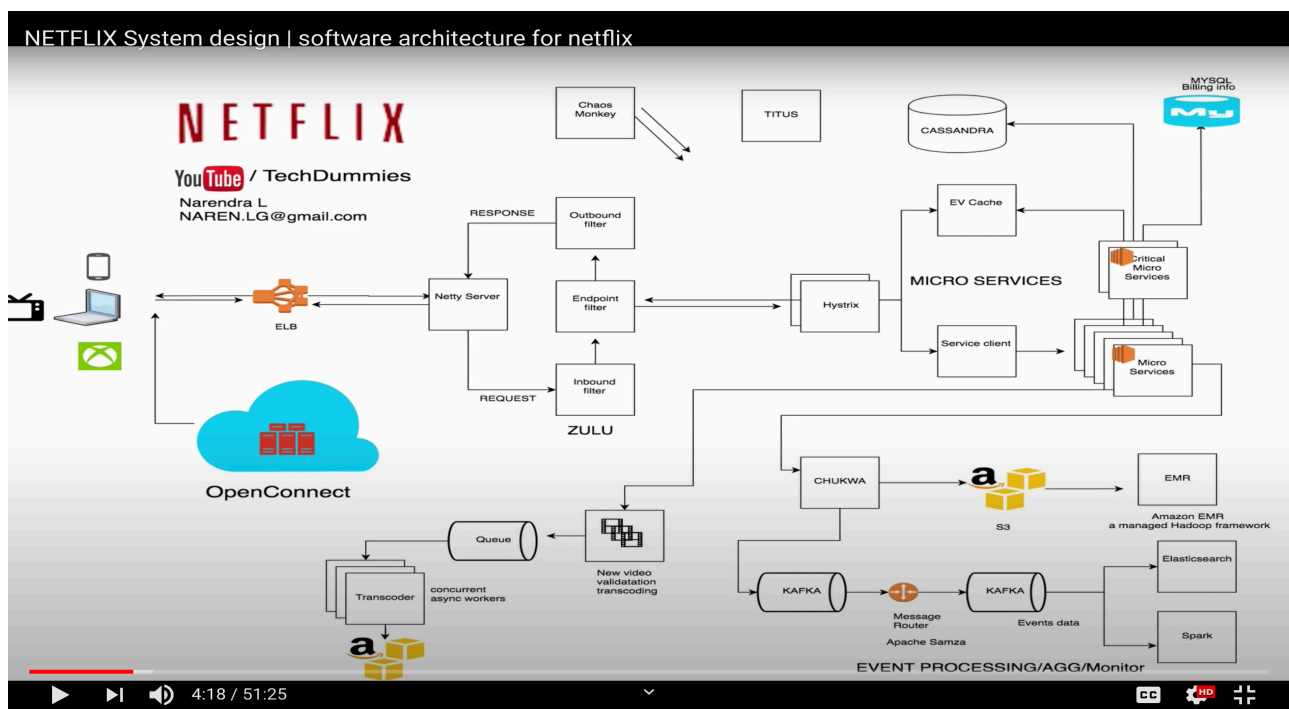
openconnect- Netflix own cdn -CDN content delivery network - india to US content delivery serve by doing copy of server - nearest server send the data to user

ELB- elastic load balancer - zones first Round robin LB- distributes loads between two instances

transcoding - moving to different format - based on devices- make copies of 100 of videos with different sizes (hd/240/480)

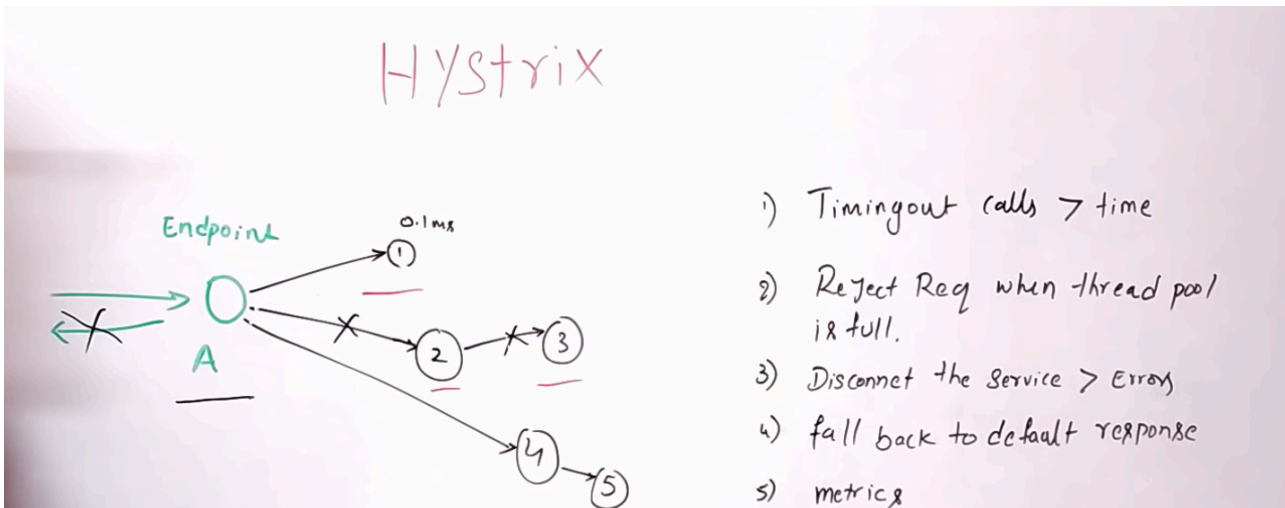
once user login- aws searches for best OC server - based on bandwidth/video quality

zuul- gateway server- (benefits) shard traffic- load testing- Test new service real time (Beta testing)- Filter bad request

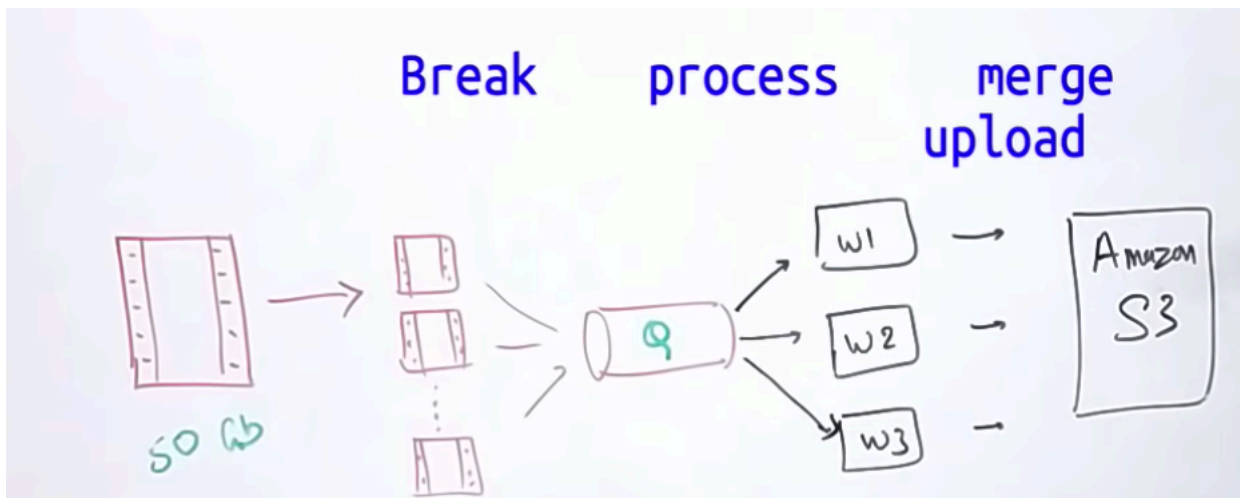


reliable ?-

use Hystrix- stop cascading error- take care each microservices- set time request for serve req- reject req when thread pool full - disconnect the service- collect metrics- produce default response on error



- Stateless Api
- EV cache - based on mem cache- works on RAM - throughput- latency - cost
- MySQL - master-master model (high scalability + availability)
- Cassandra- data handle heavy reads+ writes - user history - heavy data- (r:w = 1:9) -
- kafka & chukwa - events and logs passed through chukWA- routing of data
- Spark- ML -sorting - row selection - relevance rank



Artwork analysis

Movie recommendation- users history + interaction + users taste + Prev Metadata + device + time of day- based on this NF decide recommendation

consistent hashing used in OC - hash the file name falls on the server

Good reads: (<https://www.youtube.com/watch?v=psQzyFfsUGU>)

<https://chukwa.apache.org/>

<https://medium.com/netflix-techblog/s...>

<https://github.com/Netflix/Hystrix>

<https://github.com/Netflix/EVCache>

<https://github.com/Netflix/SimianArmy...>

<https://medium.com/netflix-techblog/e...>

<https://media.netflix.com/en/company-...>

<https://medium.com/netflix-techblog/n...>