Get the IP  
Input Validation  
Authorization / Authentication  
Rate Limiting / Throttling  
Whitelist / Blacklisting  
Flow Control  
Authentication (OAuth 2.0)  
Request Header Validations  
TLS Termination  
Request Deduplication  
Metering / Usage data collection  
Request Dispatching  
API Gateway  
Load Balancer  
#MultiPrimary  
Access Logs  
Status Codes  
Number of Requests  
Active Connections  
Request  
Response  
Gzip, deflate  
Request ID  
Idempotent Key  
Many more...  
4XX, 5XX, 2XX  
Pagination  
Expiry Headers  
Mime  
Cookie  
many more...  
Response Time  
Failed Status Codes  
Error Codes /  
Message  
Serially  
Serially Batch  
Pessimistic  
Locking  
Optimistic  
Locking  
Concurrency:  
Leaderless  
(#Gossip  
Protocol)  
Leader +  
Followers  
Multi-Leaders  
Frontend Servers  
#InMemoryConnections  
For Live Streaming / Chat  
CDN / Edge Servers  
#Global #Regional #Static  
Static / Stream with ABR  
Message  
Dispatcher  
Round Robin  
Weighted Round  
Robin  
Least Connections  
Hash / Server  
Stickiness  
Random  
User  
Connection  
user\_1  
ada\_inst\_obj  
Dispatch Messages  
to other FE Servers  
Server  
Topic / Obj ID  
server\_1  
asdf23dsf3oj23098asfdf3  
RTMP  
WebRTC  
Websocket  
SSE (Server Side  
Events)  
HTTP Short Polling  
HTTP Long Polling  
Webhook  
Stream API  
Bandwidth  
Topics  
Cache Miss Outs  
Active Resources  
Total Resources  
DiskIO (if buffering)  
CPU  
Memory  
Latency  
Bandwidth  
Vertical Scale  
Horizontal  
Object Storage  
#S3 #Chunk #Raw  
Count of messages  
Consumption Rate  
In-Transit (Waiting  
for Ack)  
Queue limit  
Push Hot Resource  
Pull Rare Resource  
Hybrid  
For every new  
chunk object  
Serves Static  
Content  
Message Queue  
Processed /   
Encoded Storage  
#Lossless #Lossy  
#Compression  
Validate Checksum  
Push Processed Media Files  
Broker  
Pub/Sub  
Count of  
messages  
Consumption  
Rate  
In-Transit  
(Waiting for Ack)  
Queue limit  
Compute Time  
Failed Count  
CPU / Disk, etc  
Compression  
Ratio  
Storage  
Consumed  
Object Count  
Key  
Checksum  
Timestamp  
chunk\_1  
asdf23dsf3oj23098asfdf3  
1532873423  
Validate  
checksum  
UUID  
Auto Increment  
Auto Incr. Multiple  
Servers (Odd / Even)  
Twitter’s SnowFlakes  
Offline Generations  
Baidu UID generator  
Sonyflake  
Redlock  
(Redis)  
Google  
Chubby  
Apache  
Zookeeper  
Distributed Cache  
#Eviction #Invalidation  
LRU (Least Recently  
used)  
LFU (Least Freq. Used)  
FIFO  
MRU  
Random Eviction  
Least Used  
On-Demand Expiration  
Garbage Collector  
Eviction:  
Write-  
Through  
Read-  
Through  
Write-Around  
Write-Back  
No. of items  
Cache Miss & Hit  
Disk & Memory  
Usage  
Cold Storage  
#OldRecords  
RDMS  
Column Wide  
Document  
Key-Value  
Graph  
QuadTree  
Time-series  
Range based  
Hash based  
Geographical  
Directory  
based  
RBAC (Role  
Based Access  
Control)  
Data  
Encryption  
Audit Trail  
Quorum  
(Read / Write)  
Hinted-off  
Merkle Tree  
(Algo)  
Query response time  
CPU / Disk Usage  
Network Throughput  
Active Connections  
Storage  
Consistent Hashing  
Mod Hashing /  
Bloom Filter  
Spamming  
Stop Words  
Dedup  
Retry with  
Idempotent Key  
Expired /  
Blocked /  
Invalid Card  
Service Down  
Insufficient  
Balance  
Content-  
Based  
Collaborative  
Filtering:  
Notification  
Service  
Metrics  
Security  
Options / Algo  
ISP  
Root  
Nameserver  
Authoritative  
Nameserver  
Top-level Domain  
Nameserver  
TLS NS  
of .com  
google.com  
Domain  
Details  
ANS’s  
IP  
Domain  
IP?  
12.34.56.78  
Processing Workers  
Payment Charge  
Service  
Backend servers  
#ClusterOfServers  
#MicroService  
𝗦𝘆𝘀𝘁𝗲𝗺 𝗗𝗲𝘀𝗶𝗴𝗻 𝗕𝗹𝘂𝗲𝗽𝗿𝗶𝗻𝘁:  
𝗧𝗵𝗲 𝗨𝗹𝘁𝗶𝗺𝗮𝘁𝗲 𝗚𝘂𝗶𝗱𝗲  
LOAD BALANCING  
UPLOAD MEDIA  
COMMON FAN-OUT SERVICES  
Distributed ID  
Generator  
Distributed  
Resource Locking  
In-Memory Cache  
#Fast  
Databases  
#ACID #BASE  
Shards  
#HotNode #Hash  
Replicas  
#CrossGeo  
Pub / Sub Queue  
Recommendation  
Service  
Log Processing  
Service  
Search Service  
Analytics Service  
With Idempotent  
Key  
Third-Party  
Banking  
Service  
STREAMING CHUNK METADATA TABLE