

## Design Spotify

### Data

1 bn Sign Ups

100 Mn DAU

100Mn Songs

5 songs per day per User

### Song

Storage 5Mb

Meta Data 1000B

User Meta 10KB

### MATH :

#### QPS

$5 \times 100 \text{ MN} / 24 \times 60 \times 60$  (86400)

$5 \times 10^8 / 10^5$

5000 QPS

#### Song

Disk Size :  $5\text{Mb} \times 100 \text{ Mn} = 500\text{TB}$

replication 3X = 1.5 PB

#### User Meta

$1\text{Bn} \times 10\text{KB} = 10 \text{ TB}$

#### Song Meta

$1000 \times 100\text{Mn} = .1 \text{ Tb} = 100 \text{ GB}$

Meta data ~ 10TB

Api

- 1.
- 2.
- 3.
- 4.

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