Project discussion :

Process Automation System

- SCADA - Supervisory Control And Data Acquisition - Product

Steel Plant - 2 to 5 KM

- 10K Sensor

- Every 50 msec



System Monitoring

- Monitor healthiness of all connected devices network

- Node, PLCs, Switches, Printer, Special devices, Ethernet Cable

IEC Stand 61970 - Common information model

- Power System

Graph Model

- network topology

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Design :

Example : youtube

Video uploader :

-> Upload content (constraints) : capacity planning

-> search based on tags, keywords (data processing)

-> engagement of a video / user /comments/ likes (raw data )

Upload Content

- Video

- Format of video - mp4, mpeg

- Quality - SD/ HD/ UHD - Consider it as Instagram videos

- large Size video - 50 MB

- max size - 50MB

- min size - anything

- 1000 User Per Day will be using it

- Total number of User

- 1 Million User active user

- 20% of 1000 user will upload daily

- 80% of 1000 will be only viewing

Capacity Planning

- 1 Million User - allow to store 1000 per user

Storage

- 1 Million \* 1000 \* 50MB = 1000,000 \* 1000 = 1Billion \* 50 MB = 50 PBytes = max

- max / 2 = 25 PB

Data Upload

- 200 \* 25 MB \* 24 = 120 GB per hour = ~33 MBps

Data Viewing

- 33 MBps \* 4 = 132 MBps



Data:

UserInfo -

- UserId

- Location

- IdentityInfo

Content

- contentType

- contentId

- chunks[urls, urls]

- tags[]

- keywords[]

ContentType

- Video

- Audio

- pics

Tag

- tagId

- tagName

- tagType

keyword

- id

- name

- desc