**Industry Solution Architect: AWS + MicroService**

 

pc mobile

gateway

forntend gateway

api gateway

pc BFF

mobile BFF

BFF

management services

micro

services

video/image conversion

video/image query

label images

video/image update

task status query

task status update



aws ECS

aws s3

aws Lambda

aws EC2

aws ELB

* **gatewaty**: traffic management, CORS support, authorization and access control, restriction, monitoring, and API version management
* **BFF**: aggregate the data of multiple the back-end services、provide the specific data according to different ends
* **micro services**: use computing resources effectively、faster and easier to update、lower development cost、higher scalability、highly reusable
* **aws s3**: provide secure,reliable,usable and extensible data storage
* **aws lambda**: high effeciency and low cost for videos and images conversion
* **aws EC2+ECS+ELB** : reduce the complexity of O&M and deployment, scalable,secure and economy architect

**Collect management information**

1: original video/image

  
**aws s3**

**data**

**migration**

**tools**

source

area

line

station

thumbnail image

image/video url

….



**aws Lambda**

**video/image convension service**

2:transcoding video

thumbnail image

3:management infomation

**management**

**services**

4. write to database

RMDB

Instance-1

Slave

Master

Instance-1

Instance-n

Instance-2

Instance-2

Instance-n

* **aws Lambda:** convert videos and images to different size adapting mutiple devices, create picture thumnail、create the first screen picture of video
* **RMDB(master/slave, mutiple instances):** One master and one slave is the most common master-slave architecture. It is simple and effective to implement. It can achieve both high availability and read-write seperation, then improving the concurrency of the cluste

**Process management information**

gateway

client



**mobile**



**PC**

1.query videos/images

5.get video/image

Info

machine

learning

是



机器学习

是是

2.query task

status

**api**

**frontend**

3.label images



**mobile**



**PC**

BFF

aggregate services

3.Label images: category、keys、

rect marks

management services

RMDB

2.task status

query service

1.video/image

query service

4.update task status:

finished

3.label images

service

4.task status

update service

back querying data

4.notice

* Couting task status based on events can be on time and provide excellent user experience
* BFF can meet the data requirements of different client ends and improve user

experience. BFF can aggregate multi services that simplifies the frontend development

video security solution

solution one: more complex rule, more security

request

video stream

check

the rule

string

Browser

check the

rule string



aws Lambda



amazon api gateway

insert a rule string into request headers hheaders

reqeust

video strem

video player

Yes

Is the rule string valid?

continue to request

No

key creator

service

Browser

**If the system requires very high security, please use solution two, but it will need high development cost.**

**Otherwise, solution one is enough. Solution one is simple and economy.**

solution two: dynamic key is time-efficient

check the key

No

end request

key checkor

service

Yes

Is the key valid?

continue to request



aws Lambda



amazon api gateway

insert key into request headers

reqeust

video stream

get key

video player

end request