Video streaming services use API gateways as the main door for all customer requests to reach different backend parts smoothly.

Part 1: Customer Request Flow

- Users on phones, TVs, browsers click play, search, or profile buttons

- Requests go to one main web address like `api.streaming.com/play`

- Include login info, device type, location data

- Gateway handles huge crowds during busy evening hours

- Works for both normal web calls and live video controls

Part 2: Gateway Checking & Safety

- **Login Check**: Makes sure user has paid account

- **Speed Limits**: Stops too many requests from one user

- **Clean Headers**: Removes private info, adds safety tags

- **Fix Format**: Changes phone data to match backend needs

- **Quick Cache**: Saves popular video pictures and info

- **Block Unwanted Intraction**: Stops virus attacks and wrong traffic

Part 3: Smart Path Finding

- **Easy Routes**: Play button goes to video team

- **Search Routes**: Search goes to find-content team

- **Share Work**: Spreads jobs across many computers

- **Fix Problems**: Switches to backup if one part fails

- **Test New Ideas**: Tries new suggestions on few users

- **Find Services**: Auto-finds where each team is working

Part 4: Backend Work & Answer Collection

- **Video Team**: Finds best video link for phone speed

- **Suggest Team**: Shows "watch next" based on past views

- **Info Team**: Gets video names, stars, languages

- **Work Together**: Many teams work at same time

- **Combine Answers**: Puts all info in one package

- **Shrink Data**: Makes file smaller to load faster

Part 5: Speed, Watch & Backup Plans

- **Fast Load**: Under 1 second answer time everywhere

- **Always Works**: 99.99% running during big events

- **Save Work**: Remembers 80% common info requests

- **Watch Everything**: Live charts show speed and problems

- **VIP Priority**: Paid users first during busy times

Working Diagram

HTTPS Request

api.streaming.com/play

Includes: Login Info, Device Type, Location Data

Customers

Phones, TVs, Browsers

API Gateway

Routes requests to backend services

Video Service

Finds best video link

Recommendation Service

Suggests "watch next"

Info Service

Gets video titles, etc.

Load Balancer

Spreads load across servers

Checks & Safety

Login Check

Speed Limits

Stop Bad Traffic

Authorize:

Login Check

Speed Limits

Stop Bad Traffic

Smart Routing:

Easy & Fast Routes

Spread Work

Backup Paths

Answer Collection

Combine Answers

Shrink Data

Backup Plans

Auto Backup keeps data safe & available

Issue fixes, monitors speed, VIP priority

Response

Response is sent back to the customer.