Content Delivery Network: Open Connect

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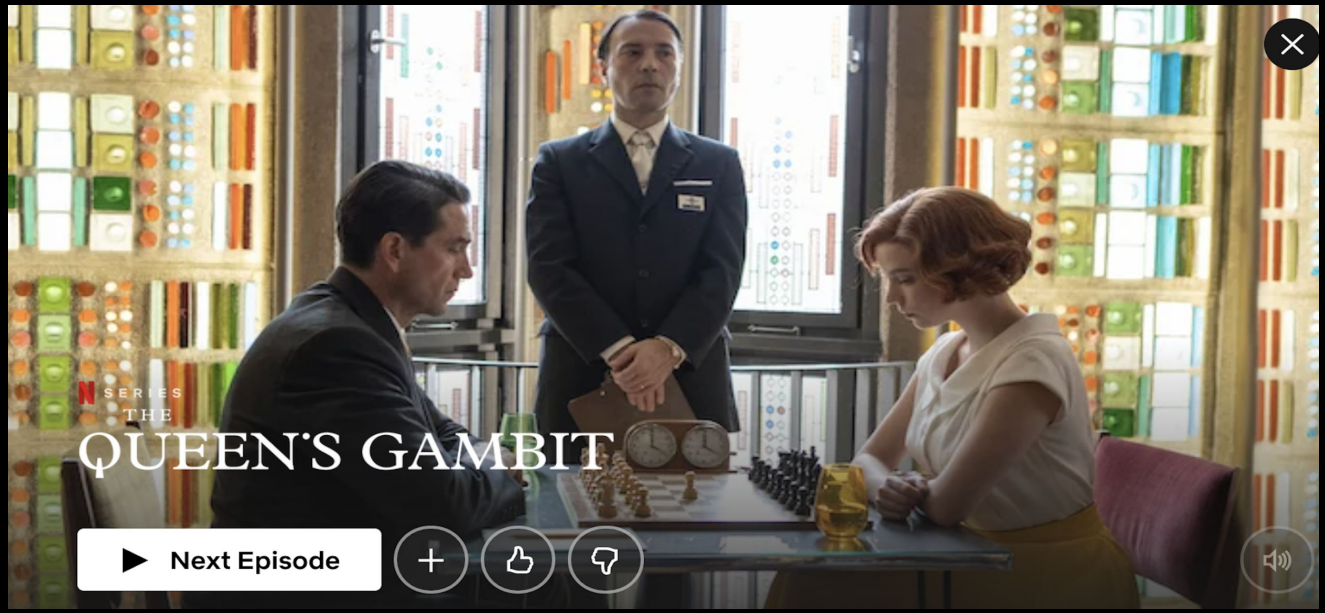
Forum : CAPIF- I

Date :- 17/Nov/2022

What makes a great streaming experience ?



- Start Quickly
- Great Quality
- No Interruptions

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Diverse networks and devices

3G Cable

LTE Fiber

5G Wifi

4K HDR

HD SD

1700+ device models

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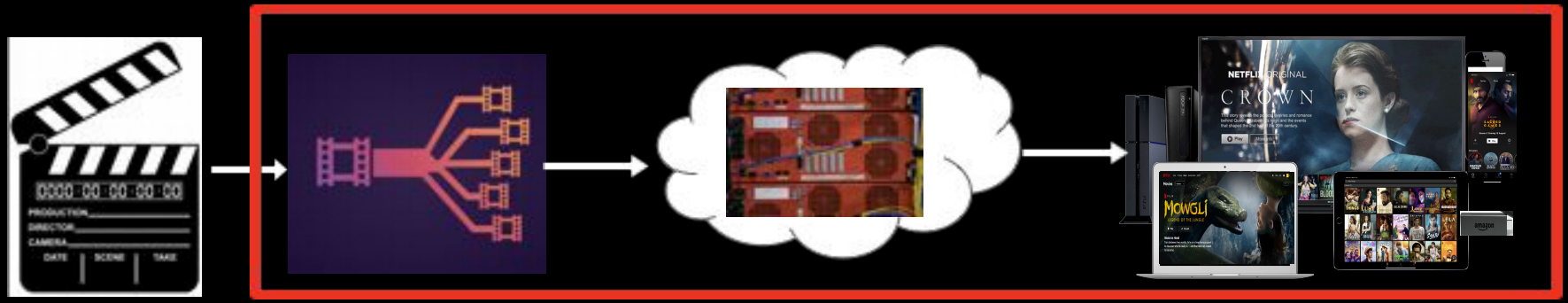
The Building Blocks of Netflix Experience



Production Encoding Deployment Streaming

Continually optimized to improve user experience

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2011

One-size-fits-all encoding

All Titles:
Standard Definition (SD) at 1000 kbps

2015

Per-title encoding

Titles Vary:
640 kbps - 1000 kbps

Today

Per-shot encoding

Dynamic:
As low as 250 kbps to many Mbps

Video at 250 kbps

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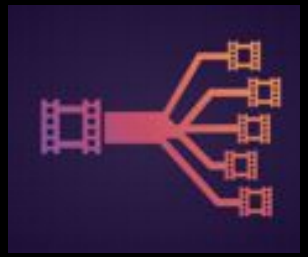
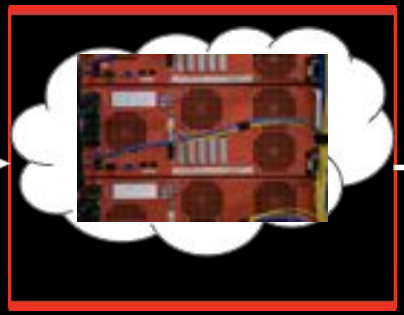
Building Blocks of Netflix Experience

Production



Encoding



Deployment

Streaming

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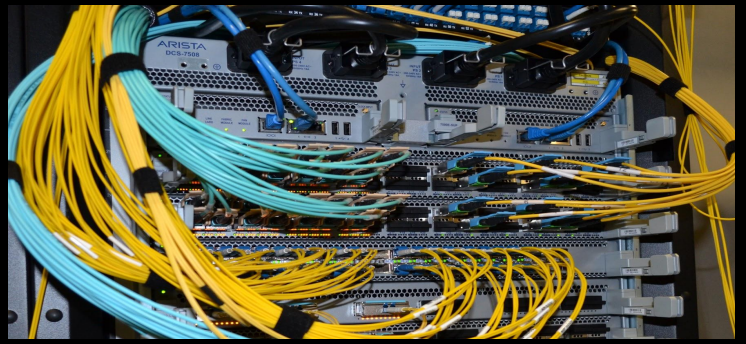
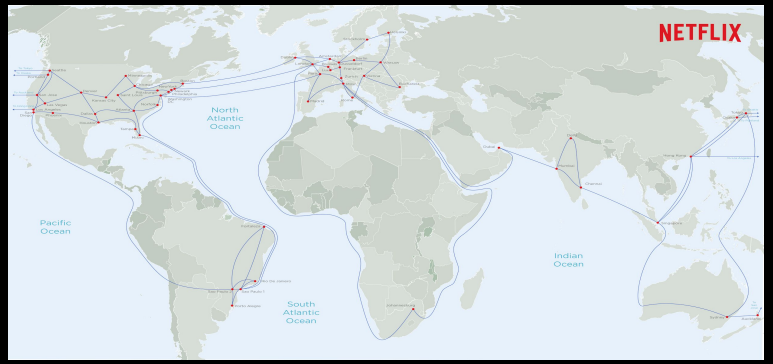
NETFLIX
Open Connect

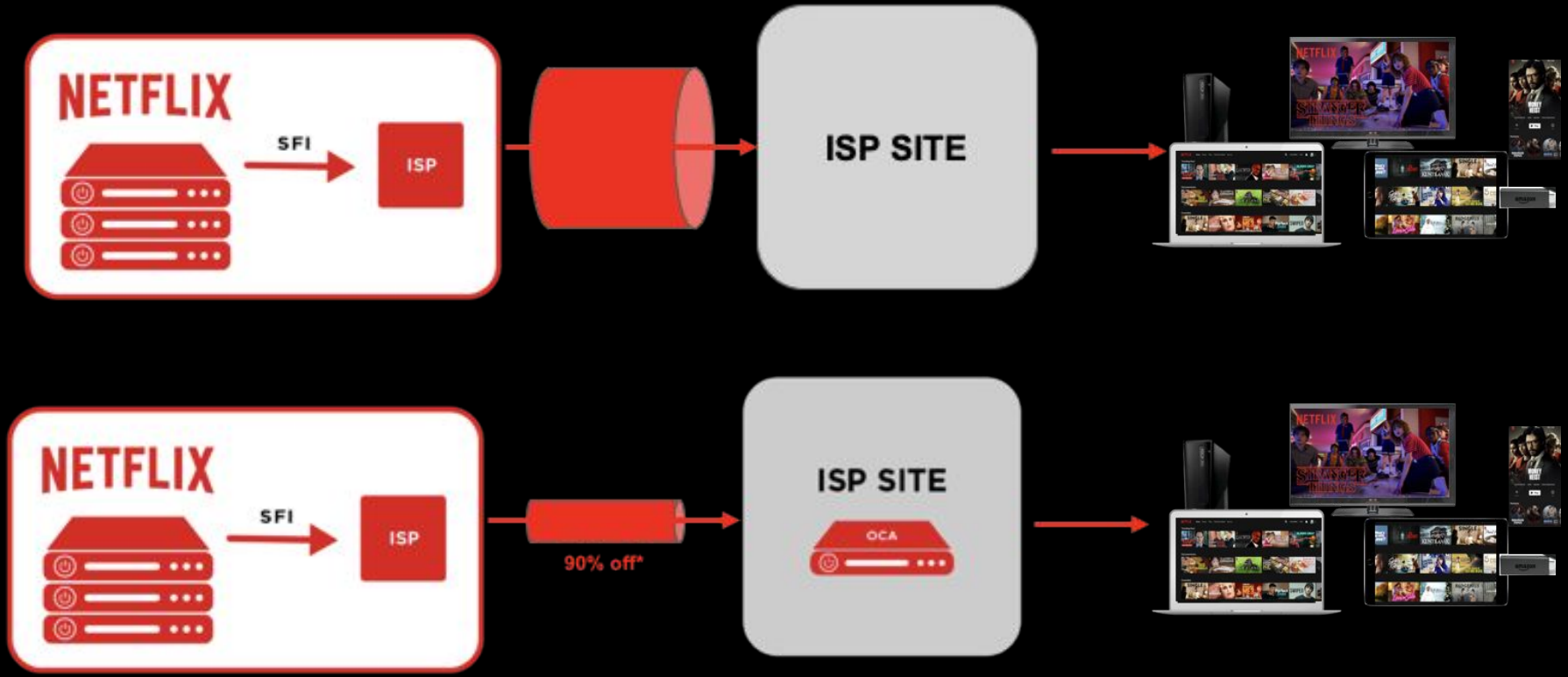
servers (OCA)

networks





Deployment Model



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Internet Routing- BGP

- Border Gateway Protocol
  - Dynamic + Standard method to exchange IP reachability
  - Best path selection algorithm
- BGP “attributes” are used in the best path selection process.

OUR ASN

2906

For Peering

40027

For Caching

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Ranking = Best path selection

Proximity determination

- Longest prefix
- Shortest AS path
- Lowest MED
- Closest Geolocation

*When all values are the same then the tie-breaker becomes geographic location.

- For more information about BGP path selection explained here.

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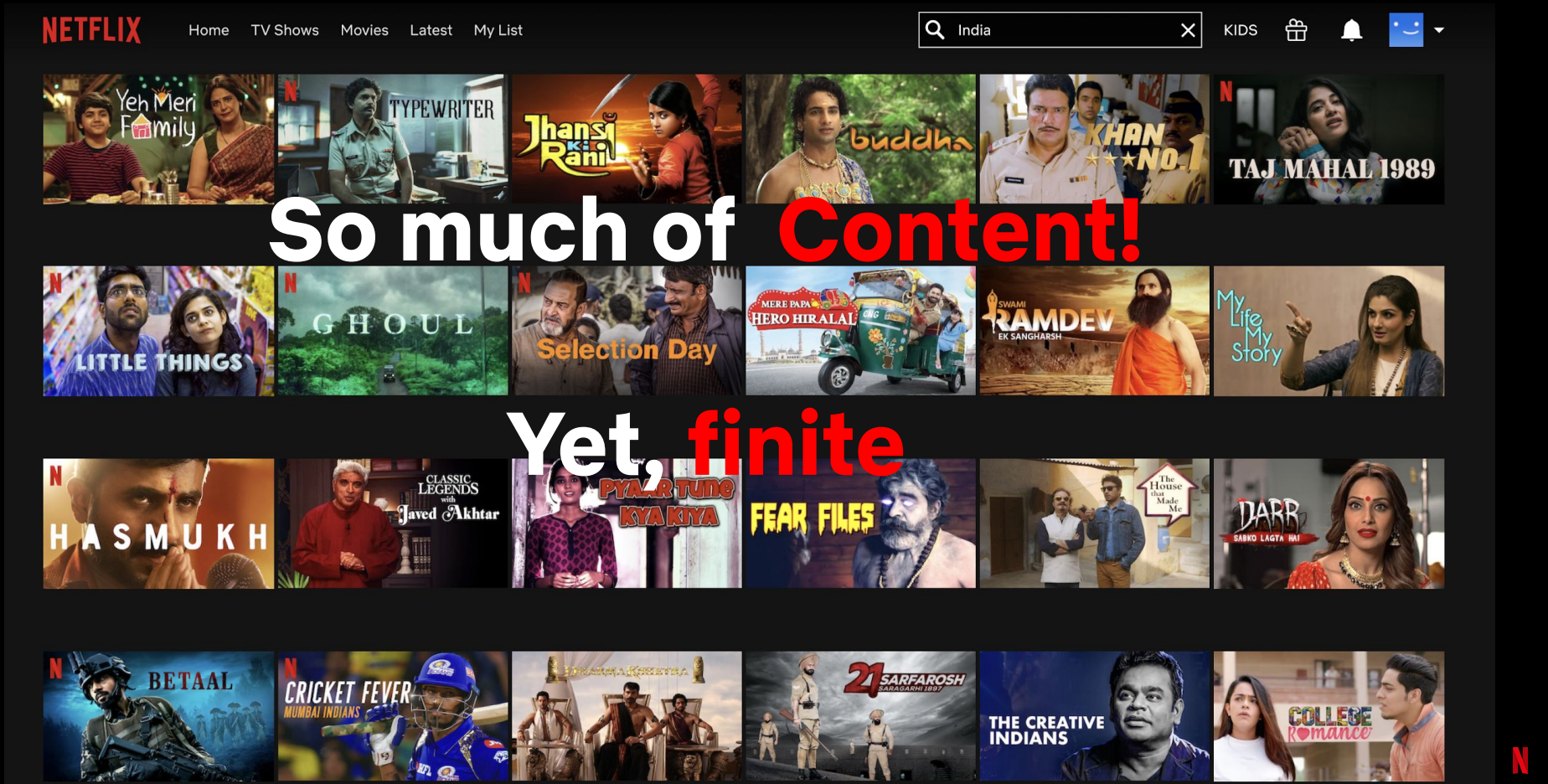
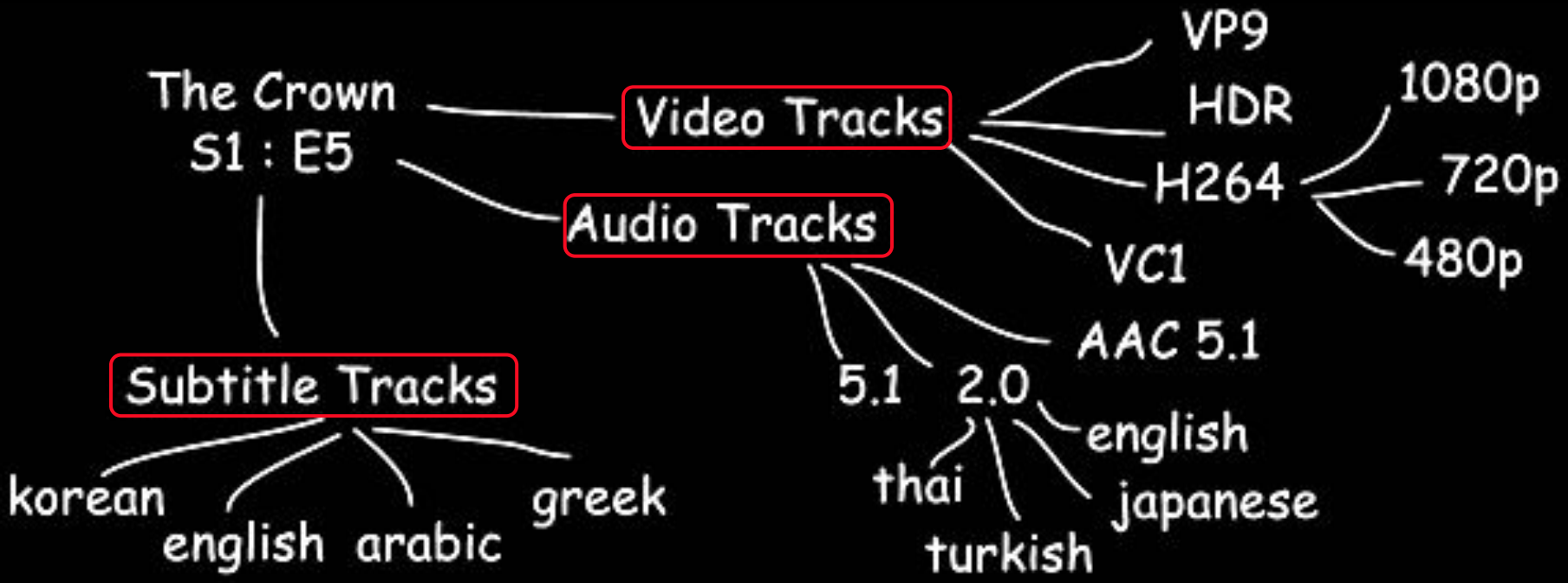

NETFLIX
Home
TV Shows
Movies
Latest
My List
India
KIDS
Yeh Meri Family
TYPEWRITER
Jhansi Ki Rani
buddha
KHAN NO.1
TAJ MAHAL 1989
So much of Content!
LITTLE THINGS
GHOUL
Selection Day
MERE PAPA HERO HIRALAL
SWAMI RAMDEV EK SANGHARSH
My Life My Story
Yet, finite
HASMUKH
CLASSIC LEGENDS with Javed Akhtar
PYAAR TUNE KYA KIYA
FEAR FILES
The House that Made Me
DARR SABKO LAGTA HAI
BETAAL
CRICKET FEVER MUMBAI INDIANS
21 SARFAROSH SARAGARHI 1897
THE CREATIVE INDIANS
COLLEGE Romance

What makes up a title?



Content Or **Files**

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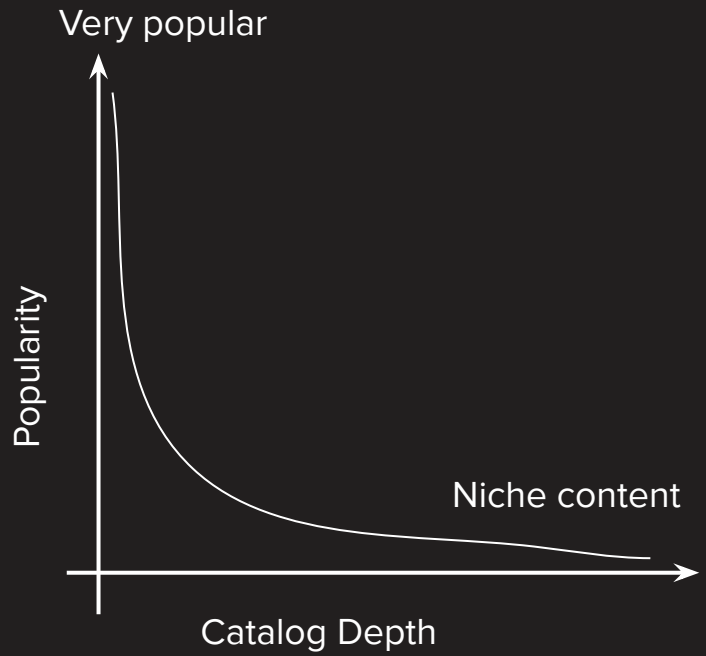
Predicting Content Popularity

- Historical viewing patterns
- For some titles, we predict based on how heavily the title will be marketed.
- For content that is launching on Netflix for the first time, we look at various internal and external forecasts to come up with a prediction of how a title will perform and normalize this with ‘organic’ predictions.



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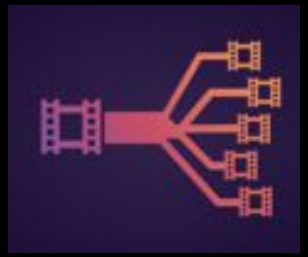
Building Blocks of Netflix Experience

Production



Encoding

Deployment

Streaming

Video quality adapts based on changing network conditions

High quality

Segment 1	Segment 2	Segment 3	Segment 4	Segment 5	...

Mid quality

Segment 1	Segment 2	Segment 3	Segment 4	Segment 5	...

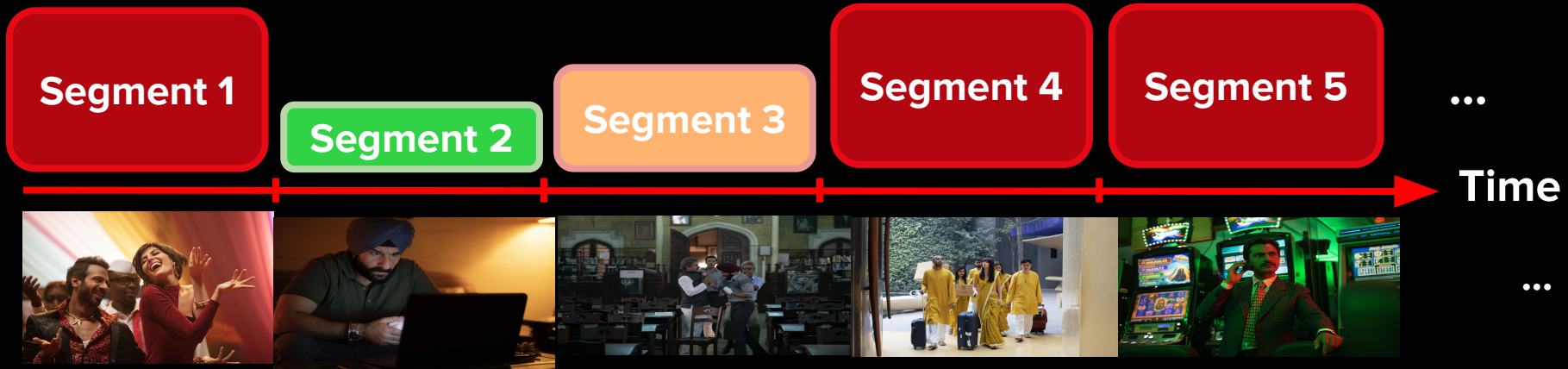
Low quality

Segment 1	Segment 2	Segment 3	Segment 4	Segment 5	...

Time

Adapt video quality based on changing conditions

Resulting experience




Netflix ASN: 2906
Traffic Profile: Content | Peering Policy: Open
PeeringDB : as2906.peeringdb.com
Contact:
peering@netflix.com
More about OpenConnect
https://openconnect.netflix.com/
For peering requests
https://openconnect.netflix.com/en/peering/
Apply for OCA's
https://openconnect.netflix.com/en_gb/deployment-guide/appliance-request/

Open Connect

Welcome to Open Connect

The goal of the Netflix Open Connect programme is to provide our millions of Netflix subscribers with the highest-quality viewing experience possible. We achieve this goal by partnering with Internet Service Providers (ISPs) to deliver our content more efficiently. We partner with over a thousand ISPs to localise substantial amounts of traffic with Open Connect Appliance embedded deployments, and we have an open peering policy at our interconnection locations. If you are an ISP with a substantial amount of Netflix traffic, review this information to learn more about the programme.

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HOME

WELCOME TO OPEN CONNECT >
WHAT IS OPEN CONNECT? >
HOW TO GET STARTED >
SAMPLE ARCHITECTURES >
WHAT'S HERE? >

For more information about Open Connect, see:

- Open Connect Briefing Paper: A co-operative approach to content delivery (PDF – English only)
- Overview of Open Connect (PDF – English only)
- Open Connect blog post

Key links on this site:

- ISP partnership options
- Engagement process
- Requirements for deploying embedded Open Connect Appliances
- Deploying embedded appliances
- Peering guidelines and contact information
- Peering locations

Fill in the appliance request form if you are interested in embedded appliance solutions.

openconnect.zendesk.com/hc/en-us/requests/new?ticket_form_id=360001257792

NETFLIX | OPEN CONNECT OCA REQUEST

If you are interested in an Open Connect Appliance (OCA) and you have reviewed the requirements on the **Open Connect Website**, please fill in this form and you will hear back from a Netflix partner manager.

Select the main topic for your request:

-

Open Connect Appliance or Private (PNI) Peering

Open Connect Public Peering Request

Subject *

Description *

Thank You

Name:- Nihit Tandon
Email :- ntandon@netflix.com