

The background features a vibrant blue gradient with subtle, wavy horizontal lines. A diagonal band of lighter blue and green stretches from the top right towards the center. The bottom right corner is dominated by a large, flowing shape in shades of pink, magenta, and orange, resembling a stylized wave or a modern architectural element.

# aws SUMMIT

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MEG008

# AWS and Rooter - Building a highly scalable and adaptable mobile broadcast experience

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Rooter

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Startup Solutions Architect

AWS India



# Agenda

- Introduction to AWS for media & entertainment
- About Rooter
- Rooter's tech stacks
- Rooter's approach to enhance streaming and optimize cost

# M&E customer challenges

M&E TODAY FACES INDUSTRY-WIDE TRANSFORMATION, WITH COMPANIES REINVENTING HOW THEY CREATE CONTENT, OPTIMIZE MEDIA SUPPLY CHAINS, AND COMPETE FOR AUDIENCE ATTENTION ACROSS STREAMING, BROADCAST, AND DIRECT-TO-CONSUMER PLATFORMS

## CONTENT PRODUCTION

Unprecedented audience demand for new content and an accelerated transition to remote production

## SUPPLY CHAIN AND ARCHIVE

Decades-old video archives stored in tape libraries and on-premises systems continue to grow, are costly to access, and susceptible to data loss

## DIRECT-TO-CONSUMER AND STREAMING

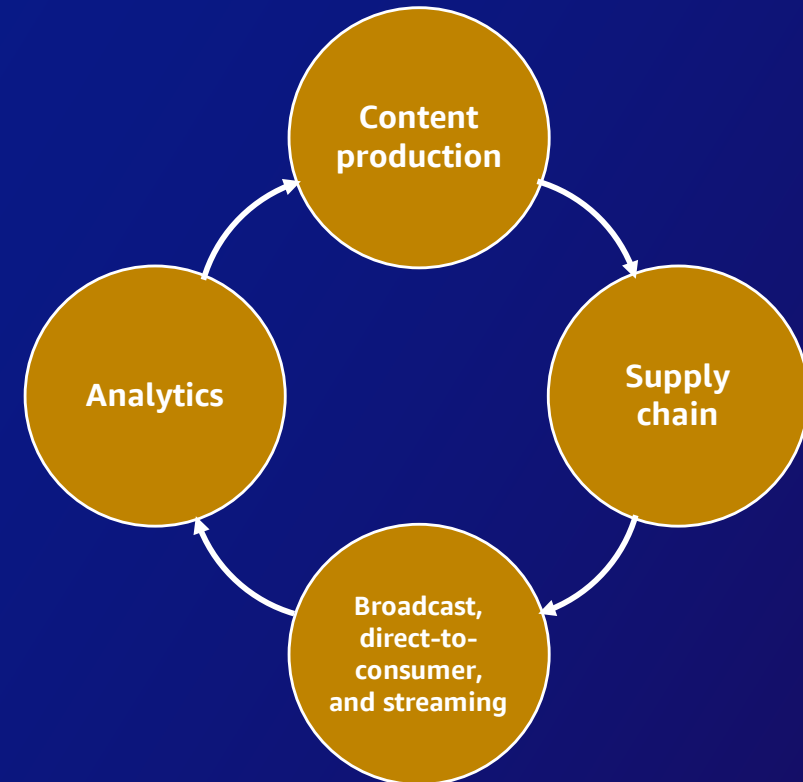
Demand for high-quality live sports, news, on-demand, and personalized content

## BROADCASTING

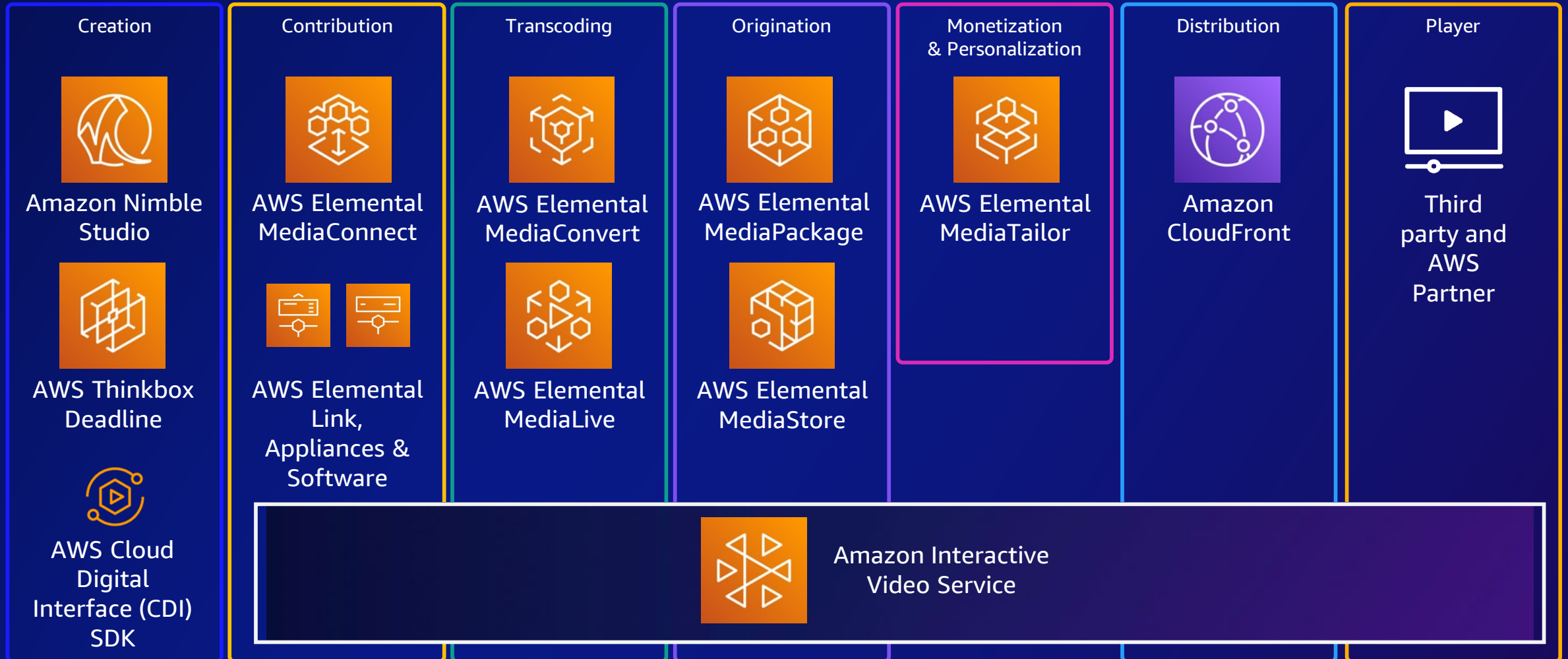
Migration to cloud for channel ingest, processing, creation, and distribution operations from ground to cloud

## ANALYTICS

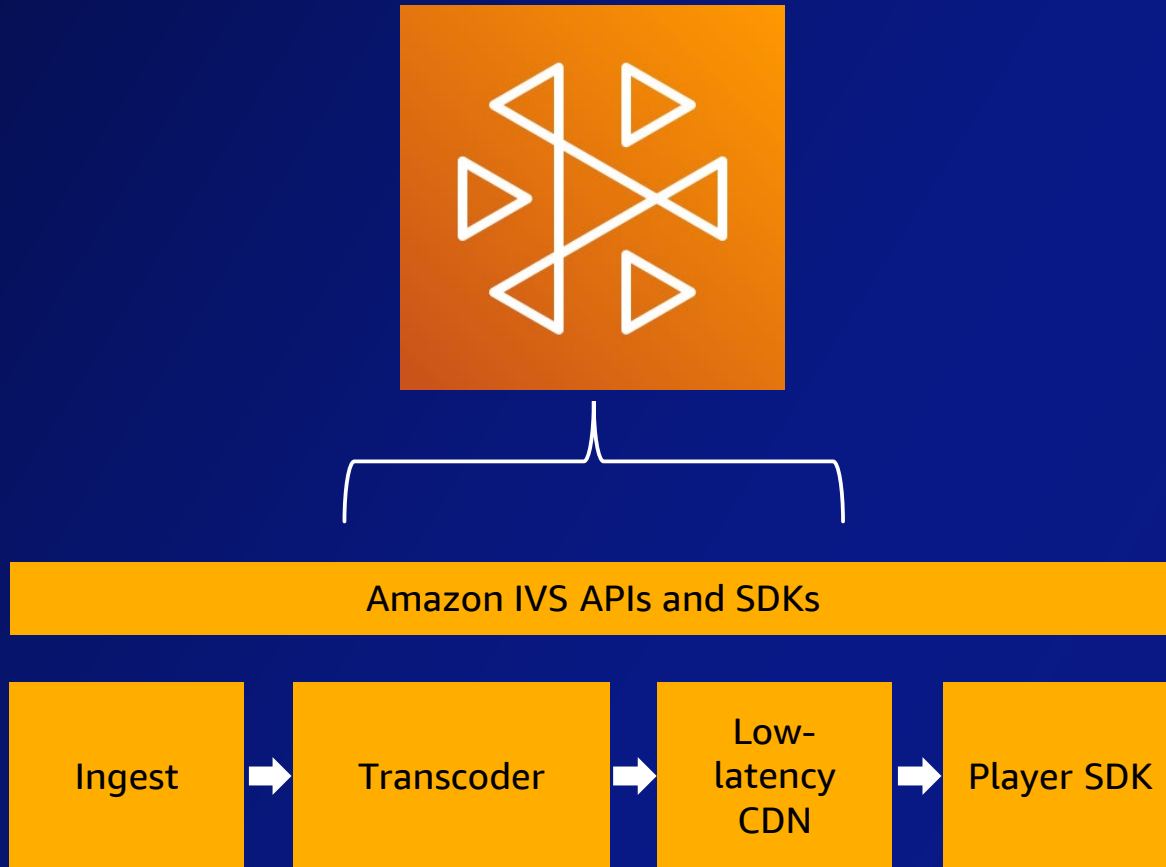
Exponential growth in data to process and analyze for audience segmentation, ad analytics, inventory prediction, contextual analysis, and personalization



# AWS media services and products



# Amazon IVS simplifies live streaming



**Built on the same infrastructure that powers Twitch**



**Fully managed, end-to-end service with APIs and SDKs to integrate live streaming**



**Global CDN optimized for low-latency video operating at scale**



**Create interactive live stream experiences to build community and engaged audiences**



# AWS Elemental MediaConvert

- ✓ Best-in-class video quality per bit
  - Access to professional-grade video processing
  - 20-50% bit reduction using Quality-Defined Variable Bitrate (QVBR)
- ✓ Fast turnaround of content
  - Ability to scale up massively resulting in near zero queue times
  - Speed up processing up to 25x with Accelerated Transcoding
- ✓ Cost efficiency through flexible pricing
  - On demand for simple, pay-as-you-go pricing
  - Reserved with a discount for steady video processing
- ✓ Managed AWS service
  - No software or hardware infrastructure to manage, highly available

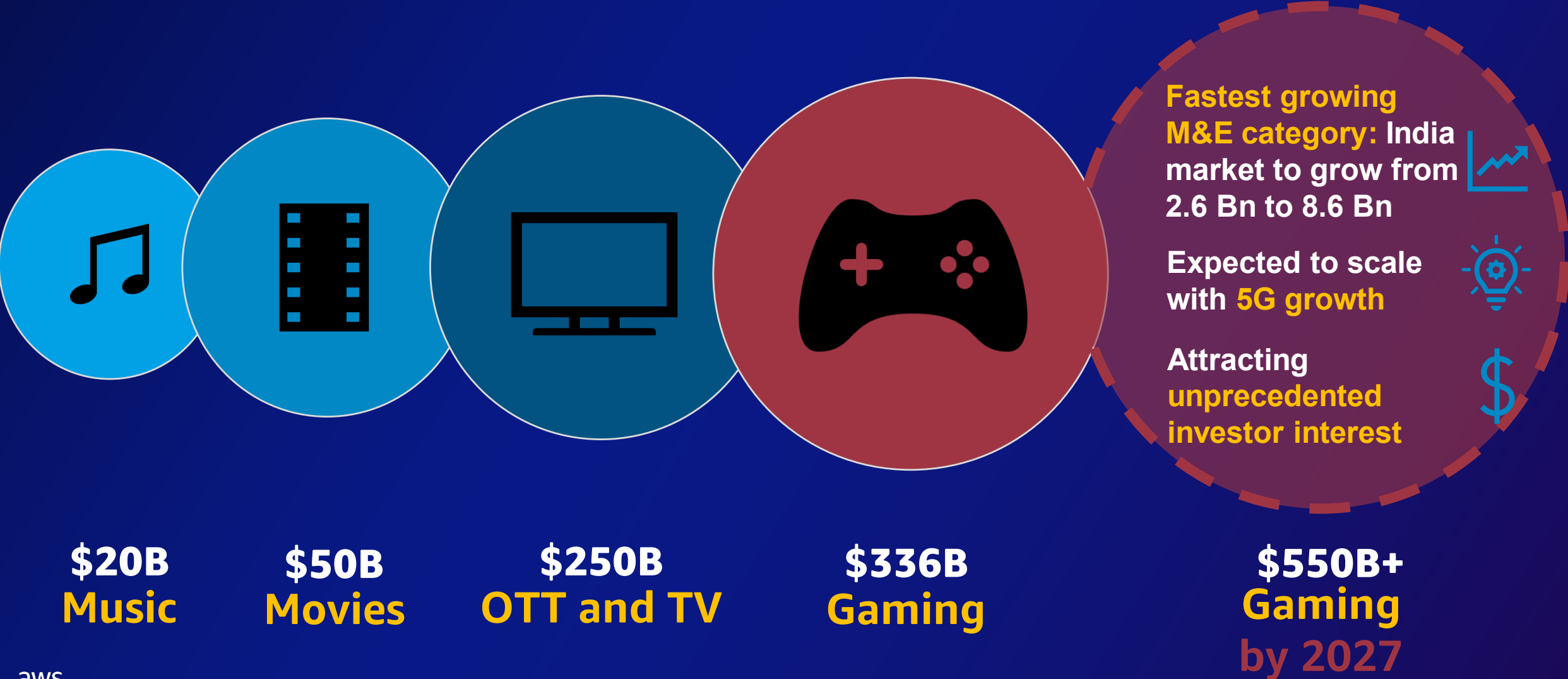
# About Router





# Size of the Gaming Market

ROOTER IS OPERATING IN THE BIGGEST CONTENT CATEGORY TODAY



# Router's market position today

BUILDING INDIA'S LARGEST GAME STREAMING AND ESPORTS CONTENT PLATFORM

~70 Mn  
downloads

17 Mn MAU  
(App + Web)

~\$6.0 Mn  
ARR

1.2 Mn+  
Content  
Creators

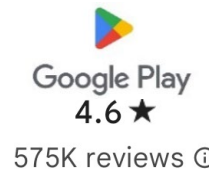
## Partner to top brands



PHILIPS



## Loved & Trusted by people across India



## Backed by leading blue-chip investors

Lightbox

MARCH  
GAMING

ADvantage

Duane Park

VentureCatalysts  
India's 1<sup>st</sup> Integrated Incubator

paytm

Anthill

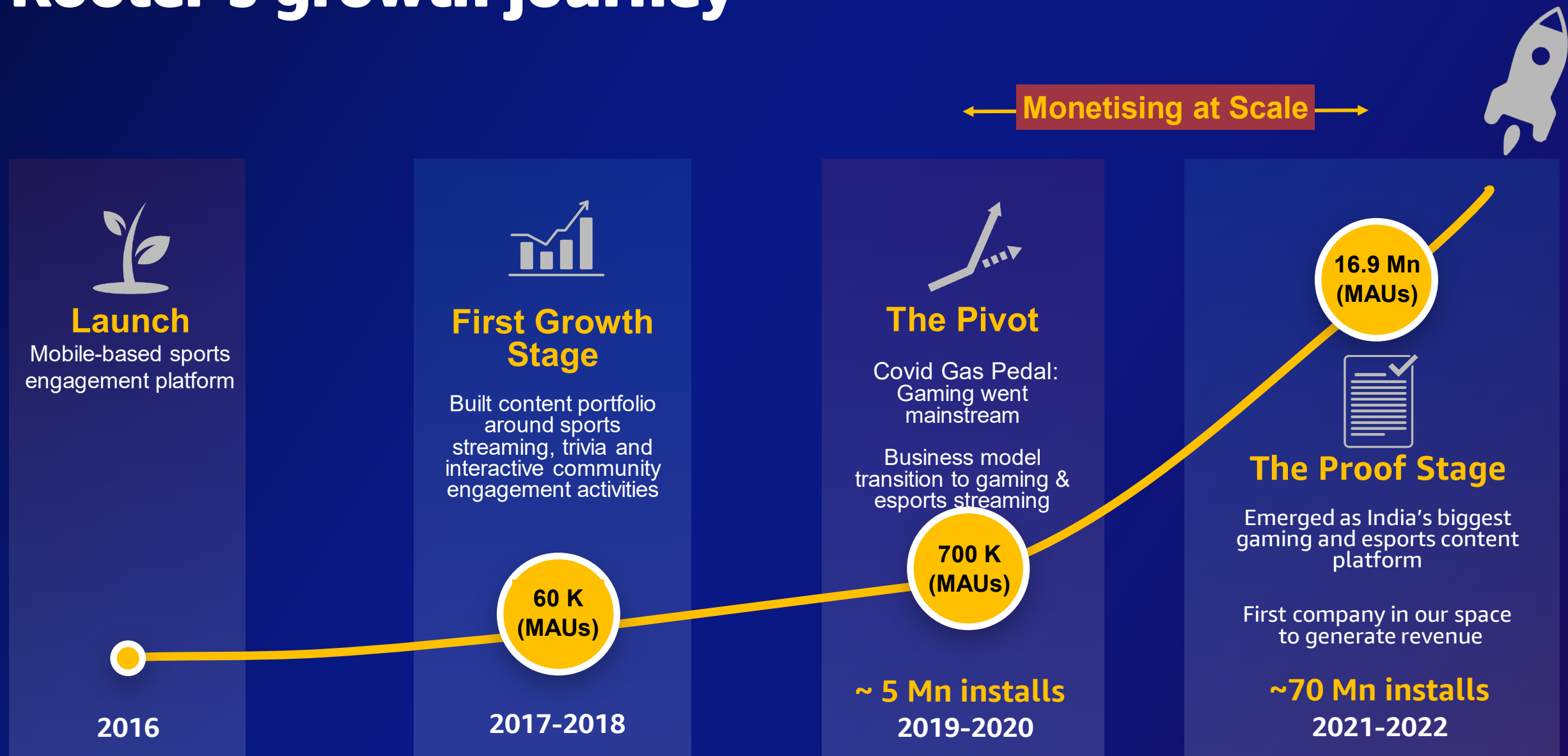
leAD  
SPORTS & HEALTH TECH

GOAL  
VENTURES

FDC  
FounderBank  
Capital



# Router's growth journey



# Router's focus on building for scale

PLAY

## Let's **CREATE** Gaming Content

Create at the  
Click-of-a-Button



Build fan  
Engagement



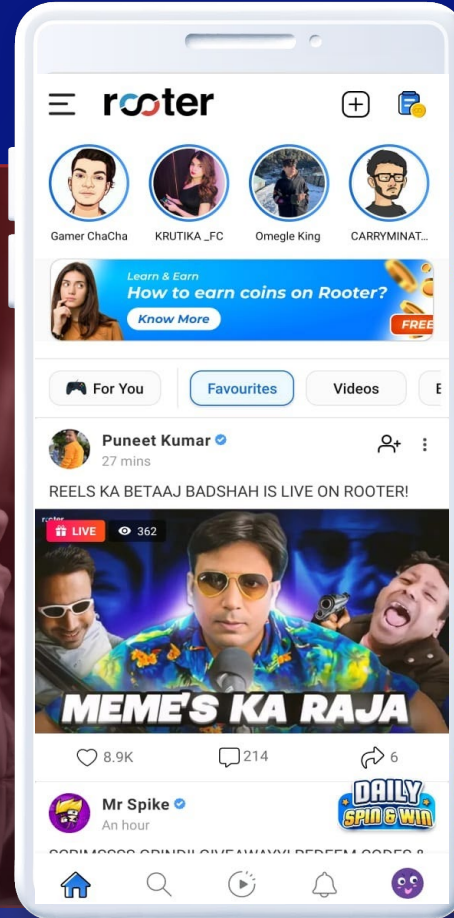
Do cross-platform  
Streaming



Conveniently  
Chat Live



Try trending Overlays  
& Thumbnails



## Let's **WATCH** Live & on-demand



Discover videos,  
Livestreams & reels



Explore vernacular  
content



Donate to your  
favourite creators



Earn  
Rewards/Points



Buy gaming assets,  
fun merchandise

All-in-one app for gaming content



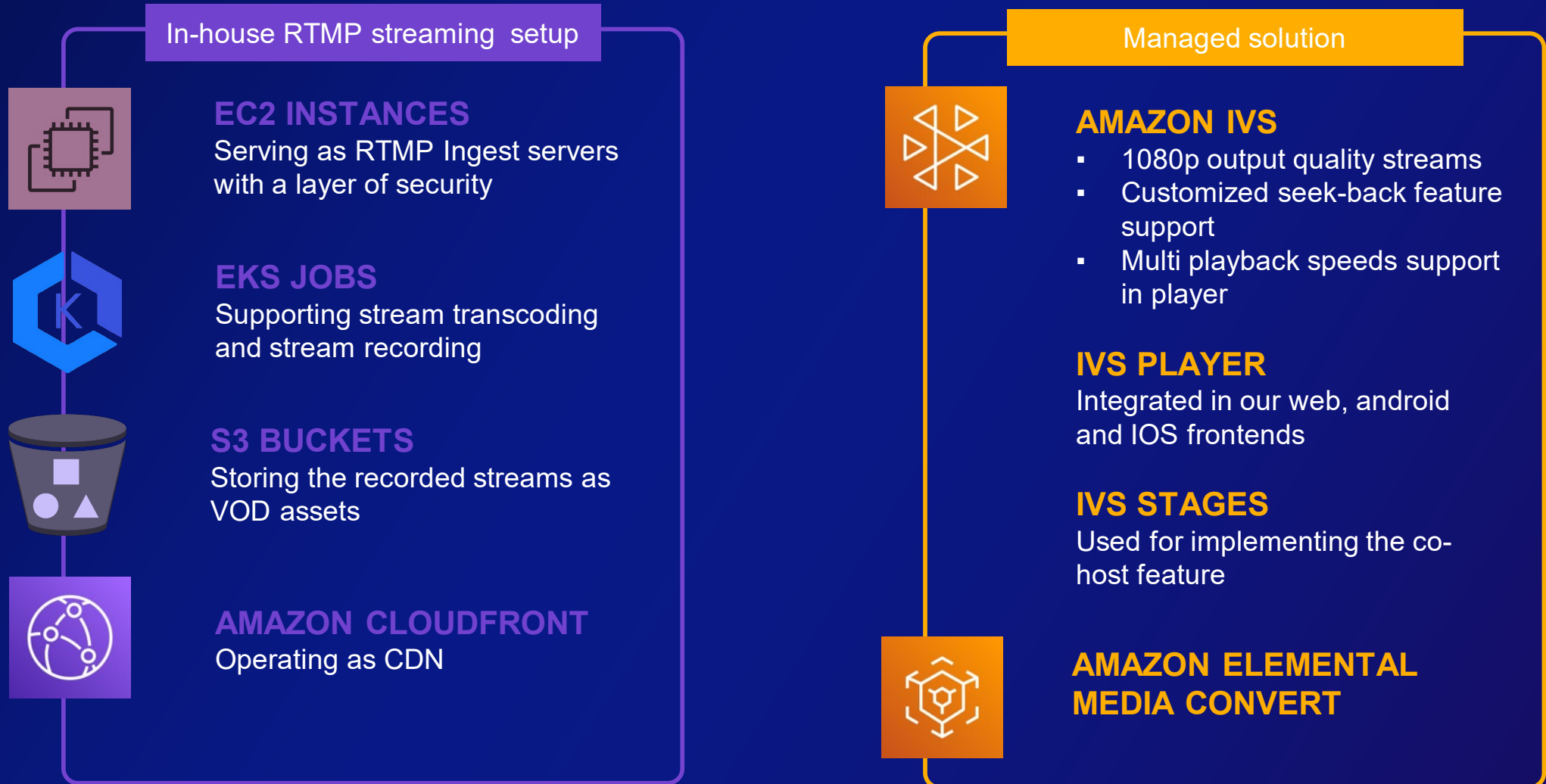
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# Router's Tech Stack





# Overview of Router's tech stack: Live streaming





# Overview of Router's tech stack: Content uploads

## Transcoding



### TRANSCODING SOLUTIONS

In-house FFmpeg based set-up  
managed solutions like Amazon  
Elemental Media Convert

## Content Moderation



### MODERATION SOLUTIONS

Amazon Rekognition For  
moderating videos and images  
at scale

## Backend support

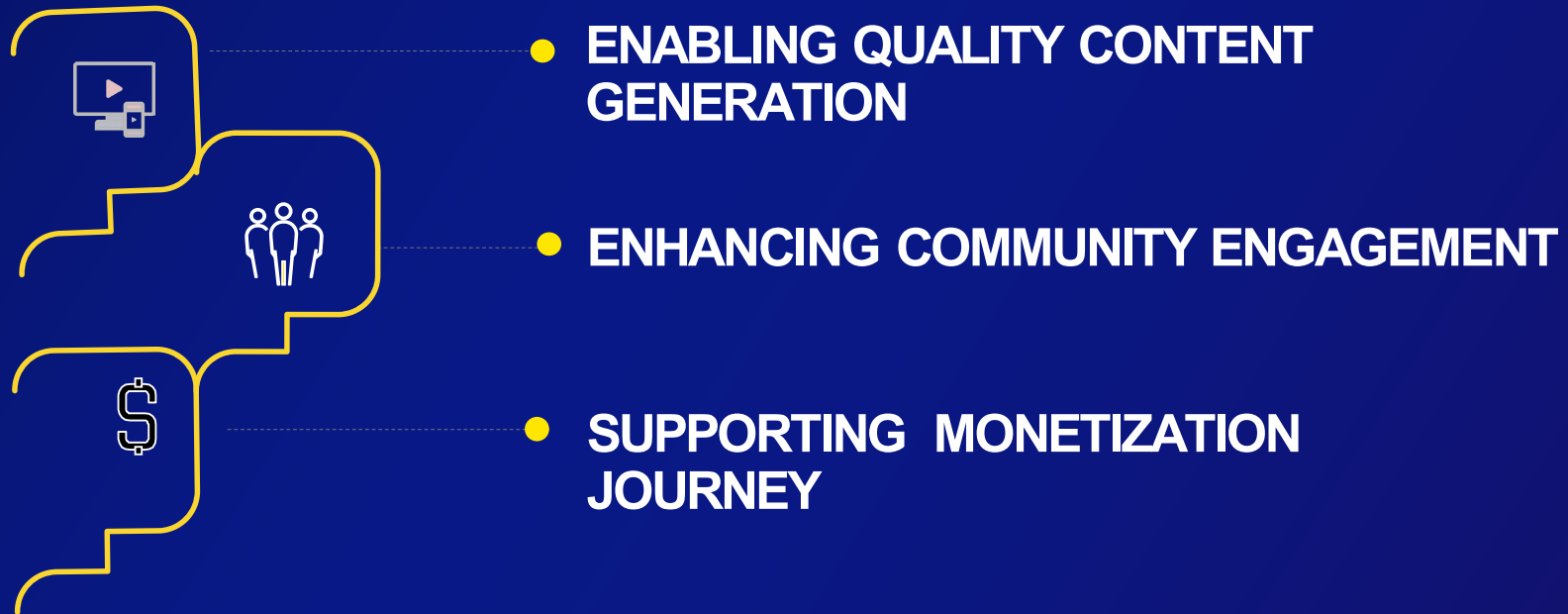


### MULTI CDN SOLUTIONS

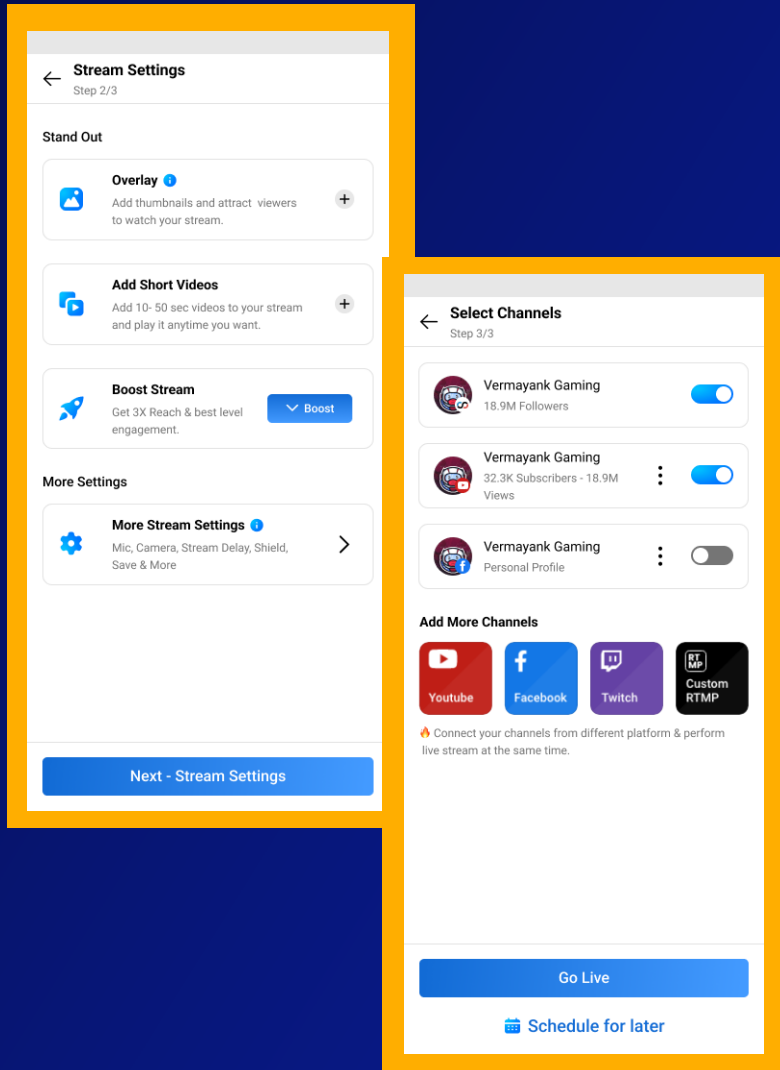
Including Amazon Cloudfront,  
operating with WAF  
integrations

# Router's approach to live-streaming infrastructure

DELIVER ENRICHING CREATOR & FAN EXPERIENCES

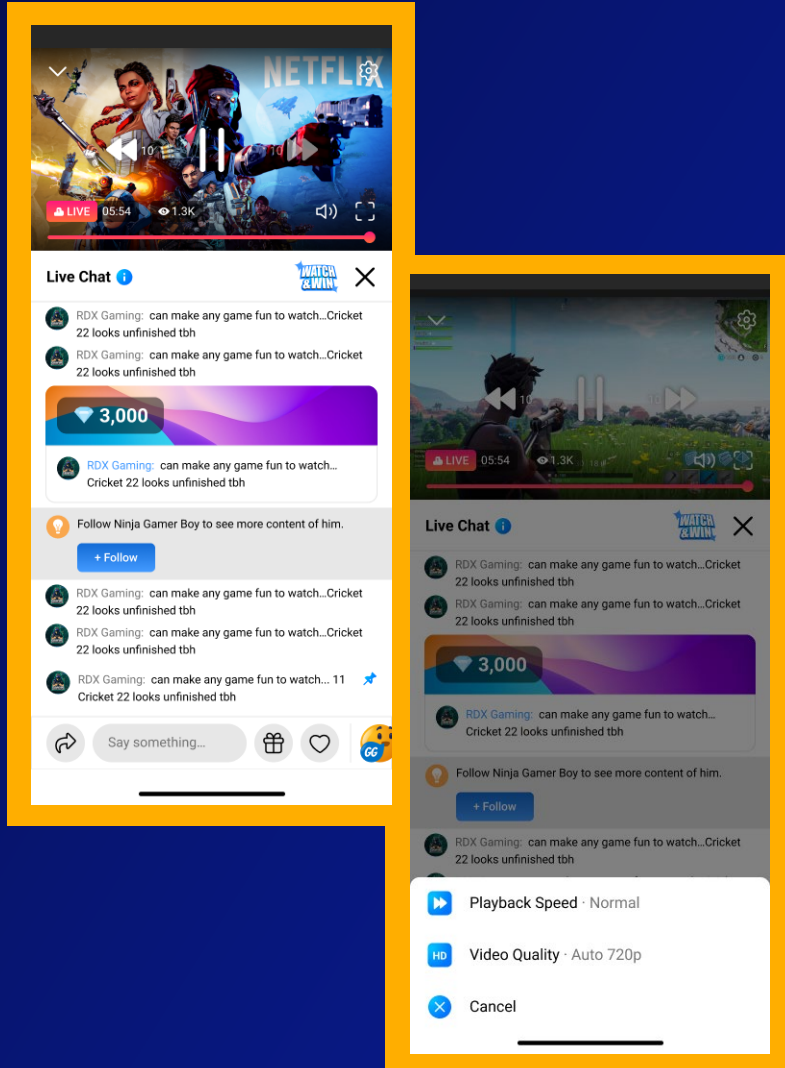


# Enabling quality content generation



- **STRONG BACKBONE TO DRIVE LIVE STREAMING**  
Robust livestreaming infrastructure support through extensive backend solutions like in-house RTMP streaming setup, Amazon IVS and Agora
- **TRENDING STREAM ENHANCEMENT FEATURES**  
Tools and measures to improve audio and visual appeal of content like Overlays, Custom Thumbnails, Stream Boost, Stream Delays
- **CROSS-PLATFORM CONTENT AMPLIFICATION ABILITY**  
Automatic relay support for Rooter live streams to multiple platforms like Facebook, Youtube etc allowing creators to expand their reach
- **PIRACY IDENTIFICATION AND PREVENTION MEASURES**  
Mitigate piracy from the Rooter platform by identifying unauthorized content sharing and banning responsible accounts
- **FAST AND SCALABLE CONTENT DELIVERY**  
Multi-CDN with WAF integrations for seamless delivery of a variety of content formats catering to multiple audience sizes

# Enhancing community engagement



- **ENGAGING COMMUNICATION SOLUTIONS**

Real-time chat support capabilities for millions of live streams enabling better creator-fan engagements

- **FAN APPRECIATION FEATURES**

Fan leaderboards to improve viewer retention and stickiness on the platform and allow creators to show appreciation to their fans

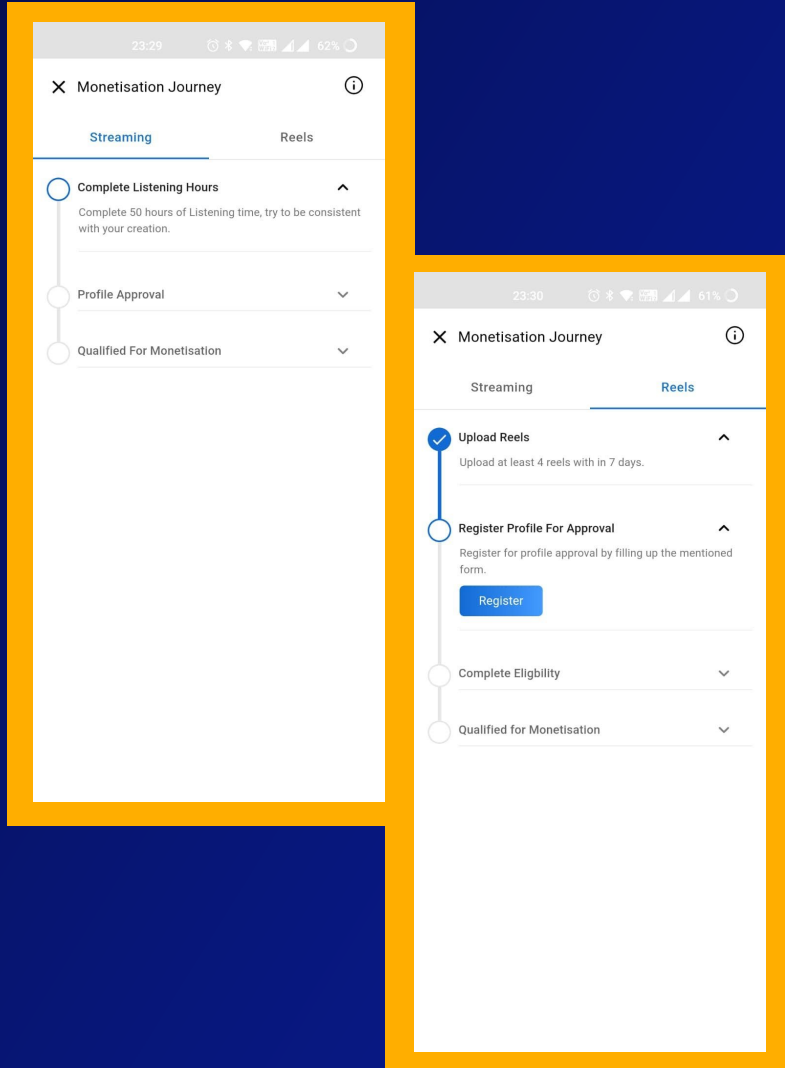
- **ADVANCED CONTENT CONSUMPTION OPTIONS**

Features like **Live Stream Seek-Back**, **Multiple Playback speeds**, **Multiple Output Resolutions**, **Stream Download** etc for a high-quality user experience

- **CONTENT REPOSITORY BUILDING**

Solutions for Stream Recording and saving into VODs, allowing creators to build their content base and profile

# Supporting monetization journey

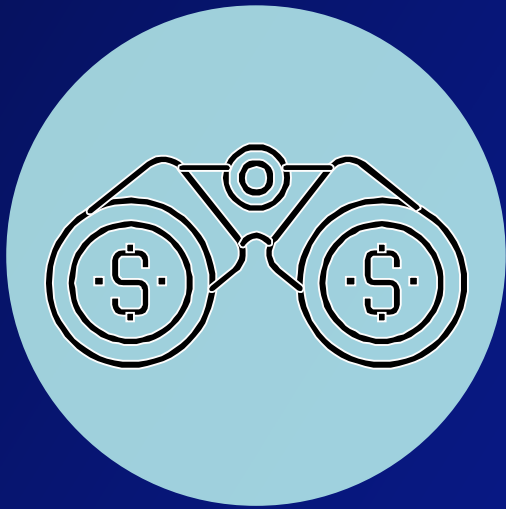


## MONETIZATION MANAGEMENT FOR CREATORS

- Monetisation models provide a sustainable way for content creators to continue creating and sharing content over the long-term, without burning out or becoming financially strained
- Tracking creator contribution and incentivising efforts calibrated against an in-house earning model
- Supporting fan donation features on streams in the form of Stickers and Magic Chats

# Building cost optimization

BALANCING BETWEEN A FEATURE RICH STREAMING EXPERIENCE AND TECH COST OPTIMIZATION AS WE SCALE



**USER DIVISION INTO COHORTS**  
(age, content frequency, live streaming hours completed etc)



**SOLUTION CHOICES BASED ON COHORT MAPPING**



**STRATEGIC APPLICATION FOR COST OPTIMIZATION**



skillbuilder.aws 

# **Your time is now**

Build in-demand cloud skills *your way*

# Thank you!

Adhikaar Marwaha  
Lead – Backend Engineering  
Rooter

Neil DCruz  
Startup Solutions Architect  
AWS India



Please complete the  
session survey