



INDIA | MAY 25, 2023

M E G O O 6

# Graphics in cloud, for live streaming

Yash Goel

Enterprise Solutions Architect  
AWS India



© 2023, Amazon Web Services, Inc. or its affiliates. All rights reserved.

# Agenda

- Evolution of Graphics in Media
- Traditional setup and its challenges
- How AWS Solves it
- Architecture Patterns

# Feeling Nostalgic..



# Graphics transformed TV News



# AWS for Media & Entertainment

FROM CAMERA TO CONSUMER



## Data Science & Analytics

Analyze ●●

Enrich ●●●

Personalize ●●●

Automate ●●

Engage ●●



# AWS media services and products

THE MOST PURPOSE-BUILT CAPABILITIES FOR M&E OF ANY CLOUD



Amazon Interactive  
Video Service



AWS Elemental  
MediaConnect



AWS Elemental  
MediaConvert



AWS Elemental  
MediaLive



AWS Elemental  
MediaPackage



AWS Elemental  
MediaStore



AWS Elemental  
MediaTailor



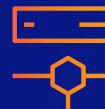
AWS Thinkbox  
Deadline



Render Farm  
Deployment Kit



Amazon  
Nimble Studio



AWS Elemental Software  
& Appliances



AWS Elemental  
Link

# Graphic types for live content

## Overlays

Full Motion videos  
overlaid on main  
video content

## Banners

Rectangular  
creative with  
news/ads often  
placed at the  
bottom

## L Bands

L shape ads that  
appear on the  
screen during a  
running program

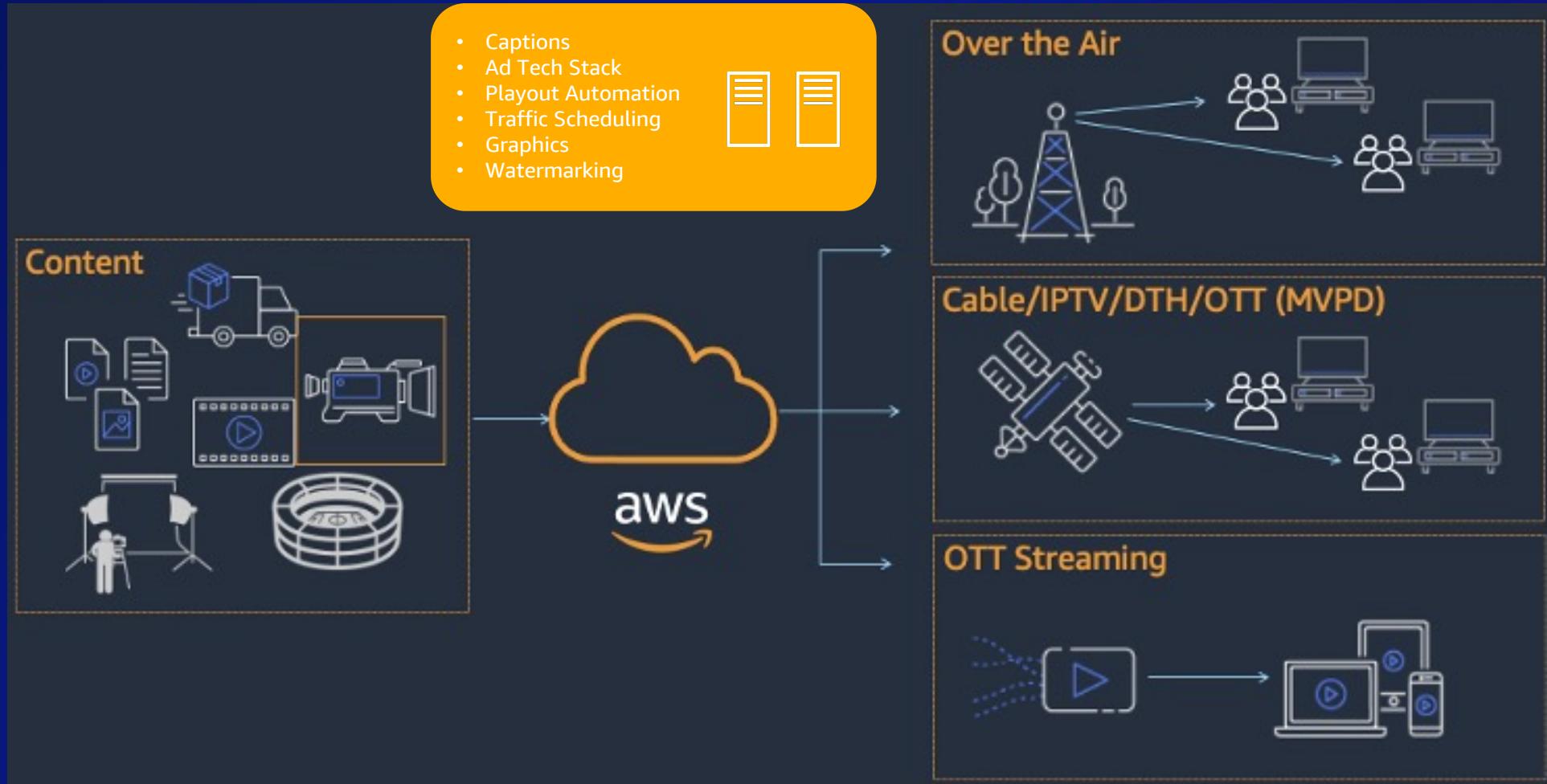
## Alerts

Breaking news,  
weather alerts in  
graphical format

## Score Cards

Scorecards for  
matches, elections  
etc.

# End to end live media workflow



# Challenges

How do we  
make GFX  
more resilient?



# Lets talk about video transmission



## Serial Digital Interface (SDI)

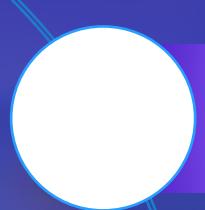
- Supports Video Transmission over IP
- By Nature Coaxial
- Uncompressed
- Suitable for low resolution

---

## Network Device Interface (NDI)

- Low latency
- Cloud compatible
- High Quality Streaming
- Extensible

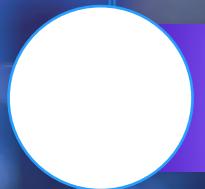
# AWS Cloud Digital Interface (CDI)



Ultra-Low Latency



Uncompressed Signals

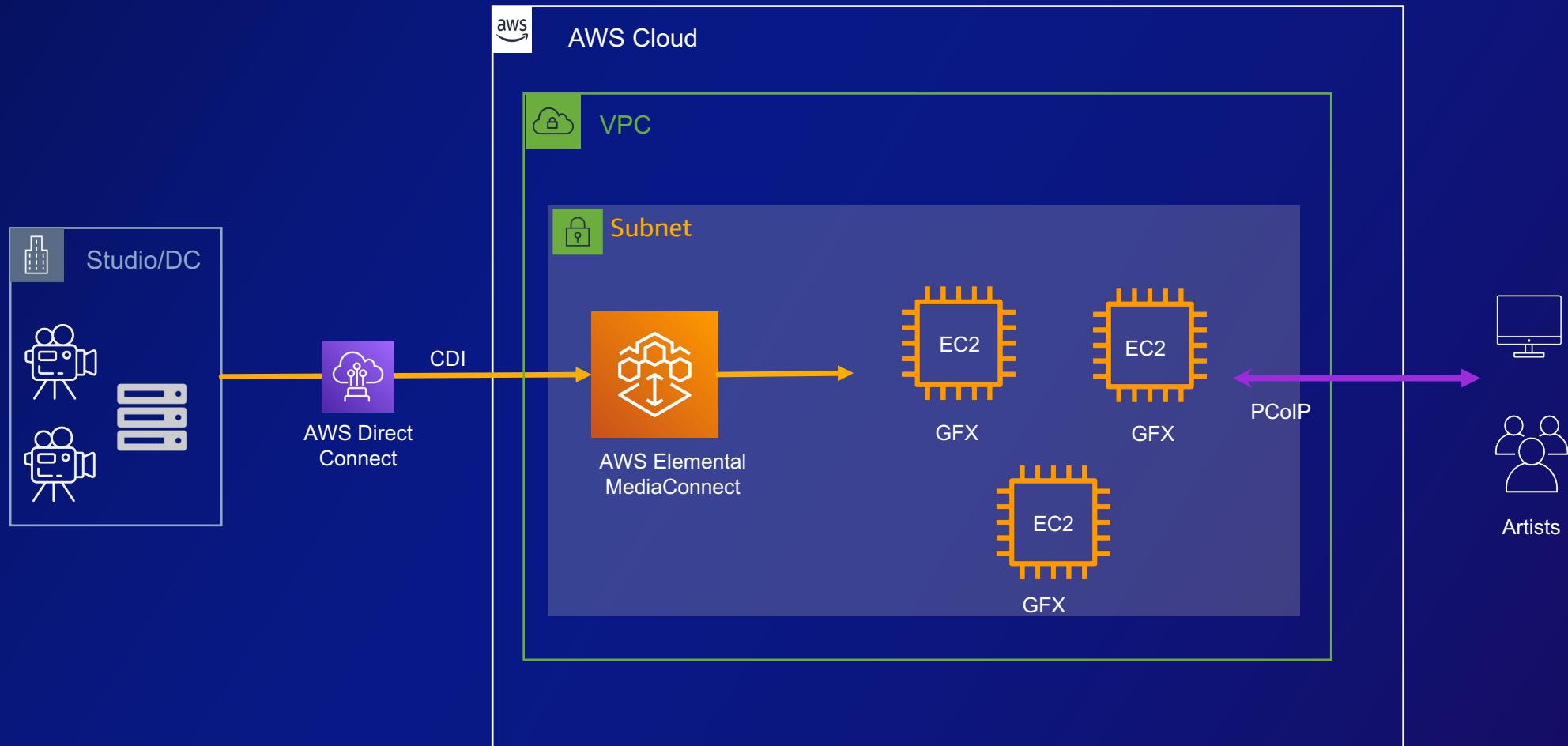


Supports 4k (UHD)



Extensible

# Simple Setup with CDI



# Solution Approaches

## Hybrid

Graphic workstations spread across  
**Datacenter and AWS Cloud**



For Spiky and DR needs

## All-in AWS

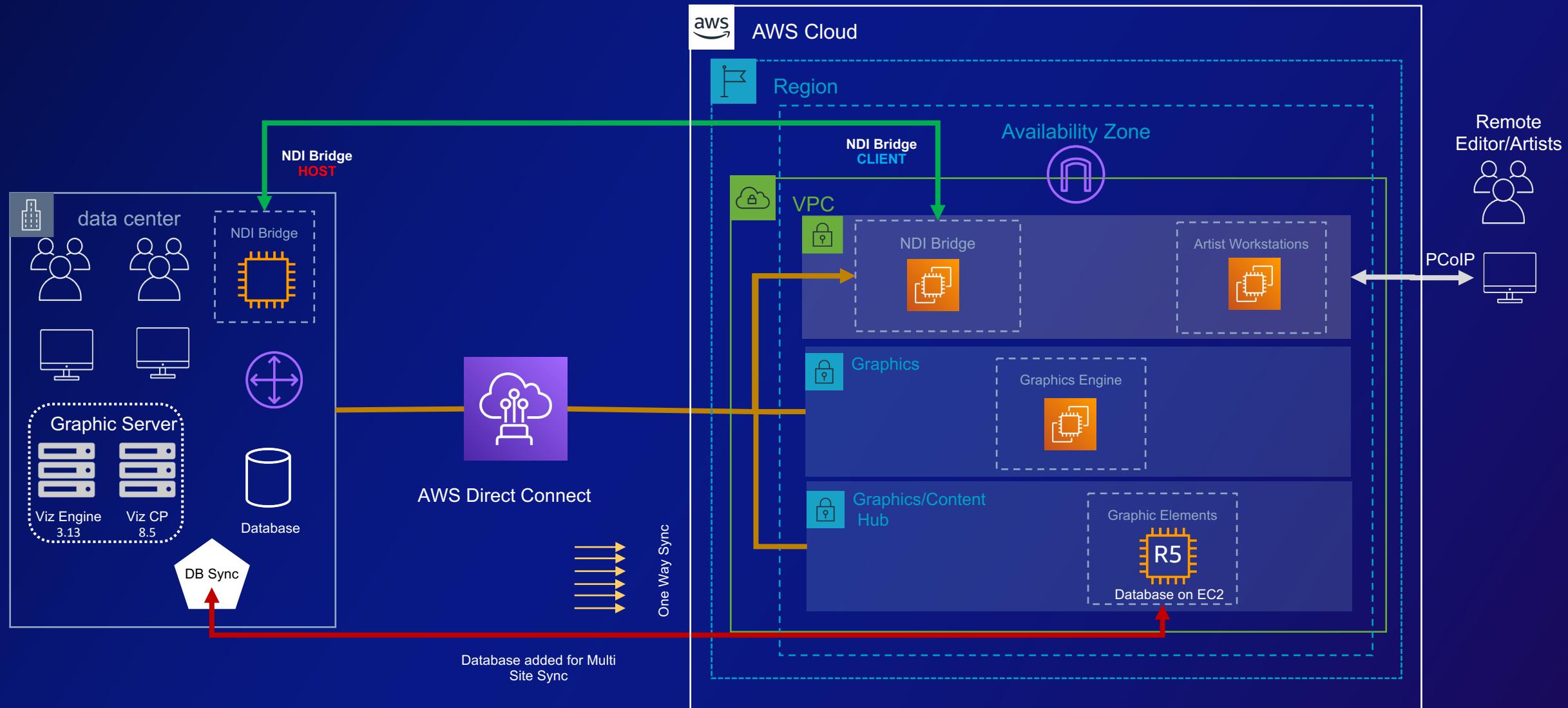
Graphics completely done in  
**AWS Cloud**



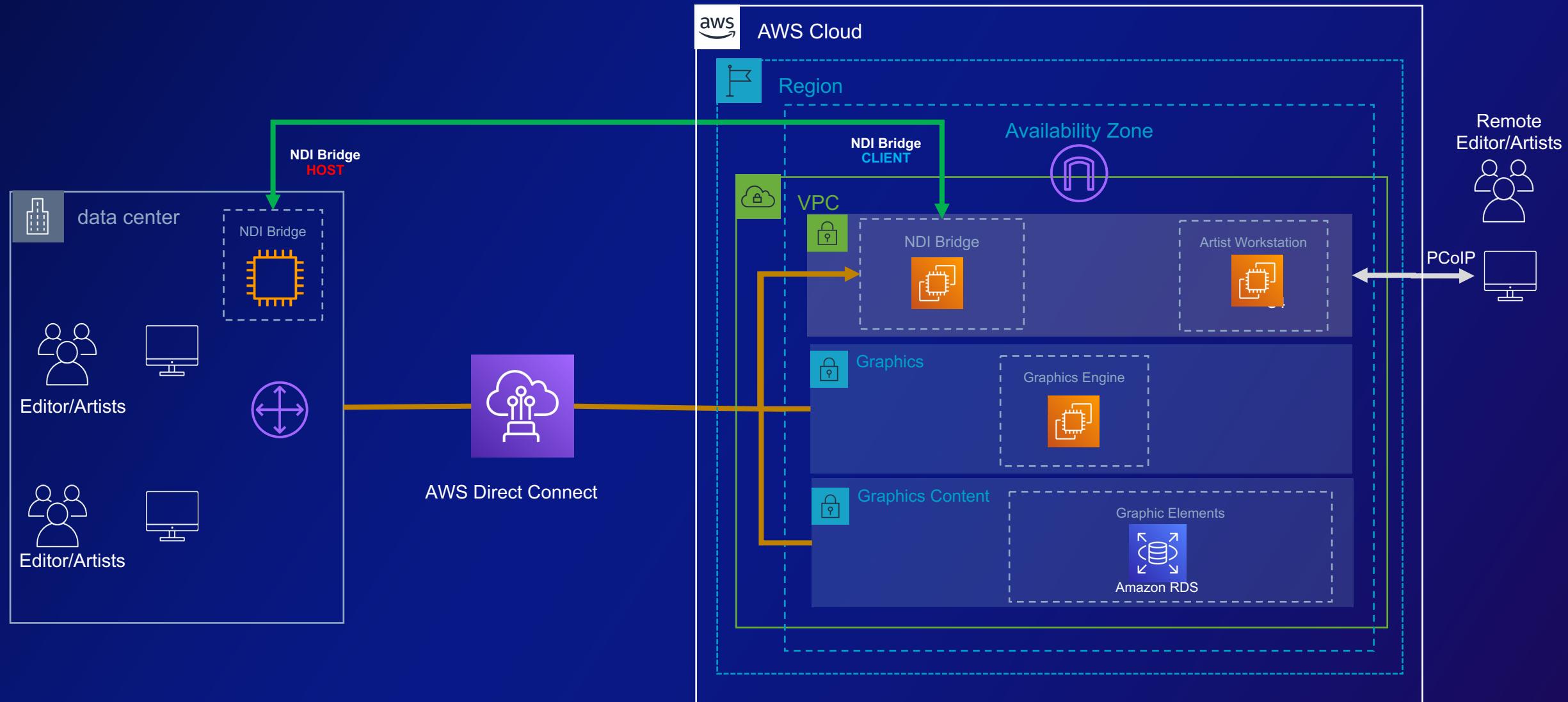
Cost Effective, less  
management overhead



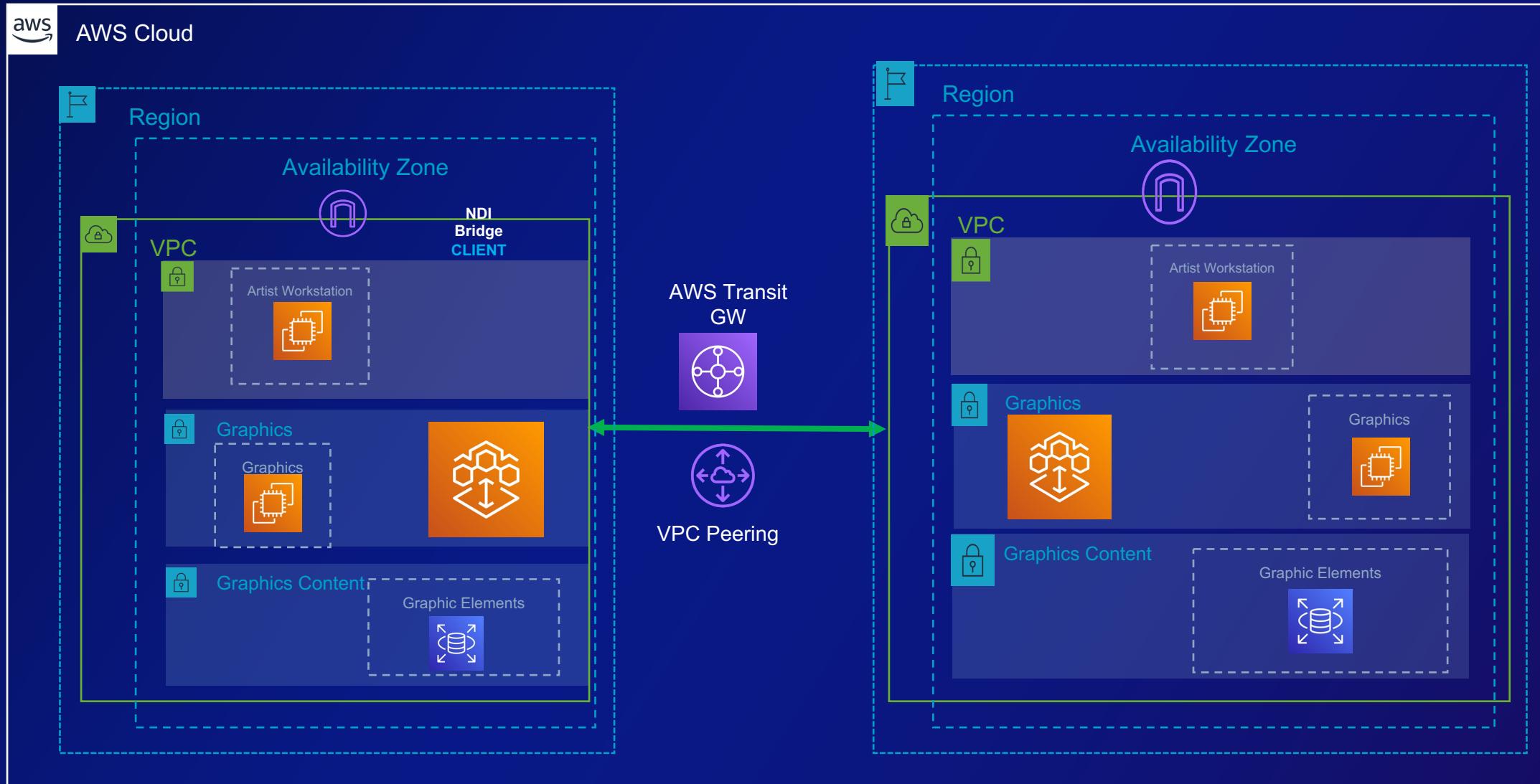
# Architecture - Hybrid (NDI Based)



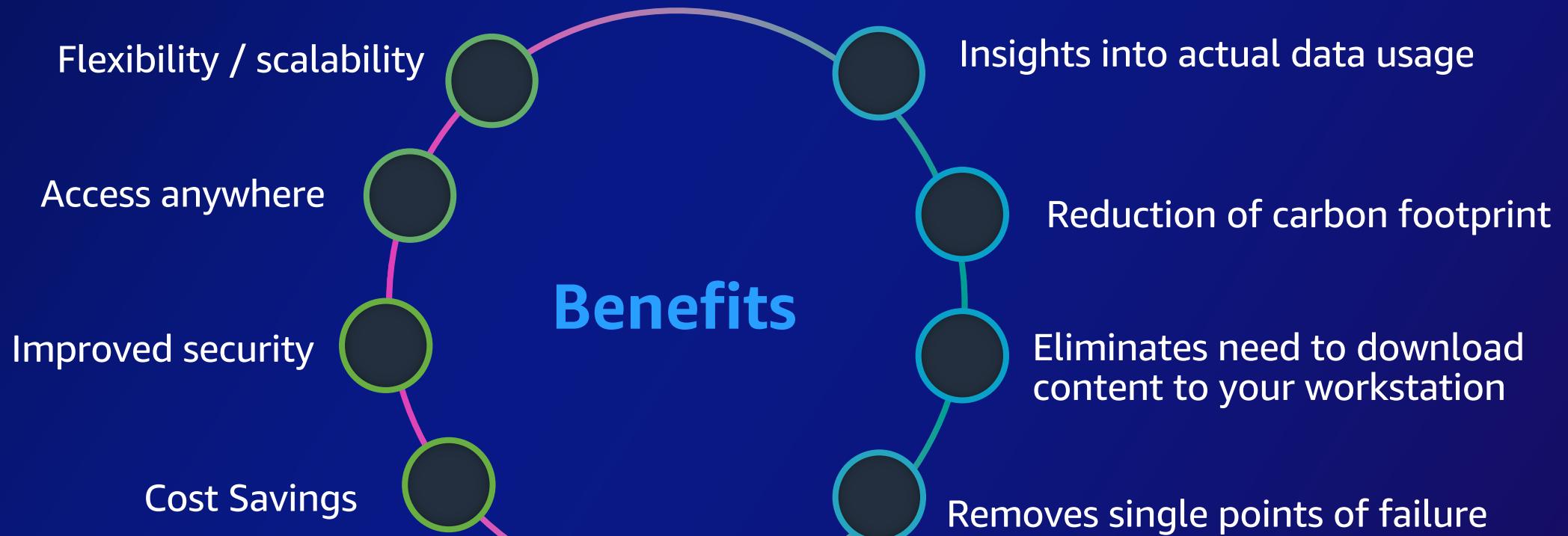
# Architecture – All-in (NDI)



# Architecture – All-in (CDI)



# Benefits of Graphics on AWS



# Additional M & E resources



[AWS for Media and Entertainment](#)



[AWS Solutions for Media & Entertainment](#)



[AWS Partners for M & E Competency](#)

skillbuilder.aws 

# Your time is now

## Build in-demand cloud skills your way



© 2023, Amazon Web Services, Inc. or its affiliates. All rights reserved.

# Thank you!



Please complete the  
session survey

Yash Goel

Enterprise Solutions Architect  
AWS India