THE GLOBAL LEADER IN BROADCAST QUALITY LIVE VIDEO OVER IP

Using ML and AI for Broadcast-Quality Delivery Across IP Workflows

November 5th, 2020



Smarter Workflows Require Smarter Solutions



SHIFT TOWARDS SOFTWARE-DEFINED

Rapid move to Cloud Virtualization for more costeffective, flexible broadcast infrastructure



As shifting workflows within and between media companies increase in complexity, need simplified, integrated solutions



DATA AND ANALYTICS ENSURE QoS AND QoE

Need to ensure broadcastquality across workflows using ML/AI toolsets through a comprehensive platform

SOFTWARE-DEFINED VIDEO PLATFORM

EMPLOYED

by traditional broadcasters, OTT broadcast services, service providers

TO

source, manage, and distribute live events and 24/7 live linear channels

OVER

ANY IP network, ANY protocol, ANY cloud provider ANY edge device

Enabling the Largest Global Ecosystem for Live Video





Global Zixi Instances

Countries

Media Customers

Technology Partners

UNMATCHED GLOBAL NETWORK

Anywhere to Anywhere 4

The Universal Gateway to a Global Video Network





7/)

Components to the SDVP

1. Protocols and Transport

Future Proof with 17 Integrated Protocols

4. Control Plane

Abstracted Complexity to Operate at Scale



2. Platform

Intelligence for adaptive configurations and workflows

3. Ecosystem

Interoperability and agility with 200+ integrated partners



Tapping Into the Power of AI to Optimize the Video Supply Chain

Optimize Video Delivery with ML

Challenge

- Delivering live video over IP networks
 - Unmanaged networks suffer from packet loss, jitter, and congestion
 - Physics and routers determine round trip time

Opportunity

- · Learn to better optimize across IP networks using ML
 - Optimize video transport for network conditions
 - Optimize video transport for types of networks
 - 5G
 - Broadband/Fiber
 - Low-orbit Satellite Internet



Intelligent Redundant Failover with ML

Challenge

- Unforeseen interruptions can disrupt linear video content feeds
 - Not all issues impacting a video stream are catastrophic but may impact video quality and view QoE

Opportunity

- Use data to determine best redundant stream path for optimal stream quality
 - Failover based on content quality analysis
 - Failover based on perceptual video analysis PSNR, SSIM, VMAF



Smart Anomaly Detection and Alerting with ML

Challenge

- Undetected problematic issues can cause stream failures
 that will have a huge business impact if identified too late
 - Need to quickly identify root causes of problems before they impact Quality of Service and Quality of Experience

Opportunity

- Use models to detect anomalies or abnormal network
 behavior
 - Provide operations teams early warning before catastrophic event occurs
 - Understand relative video transport reliability



Z/X/

Key Takeaways

- Machine learning techniques are required to provide the most robust video transport and analysis solution for unmanaged networks
- Machine learning is a journey, not a destination and requires continuous experimentation
- Zixi provides comprehensive platform for the orchestration, monitoring management and delivery of live video across complex supply chains with an unparalleled partner ecosystem





Thank you!