IBC Accelerator Media Innovation Programme 2021

5G & Innovation in Live Workflows

IBC Digital Showcase
5G & Innovation in Live Workflows

Champions:

Participants:
Last Year we gave you a show.....
This year we wanted to look at workflows

5G in a Box/ Private Networks

Multi-Access Edge Computing
Multiple Cloud deployments

LEO SAT
The Vision

An open workflow where you can connect from anywhere and run your production processes how you want and where you want………

* Key Interdependencies: 3GPP, EBU, 5G MAG, SMPTE, AMWA, (all looking at IP and connectivity workflows)
5G PRIVATE NETWORKS WORKSTREAM
See Moto GP Video Asset
LOW EARTH ORBIT SATELLITE WORKSTREAM
What is LEO?

- Provide service over uncovered or underserved geographical areas

- Benefits promised by NTN’s are wide-area coverage, scalability, service continuity and availability

- NTN standards set - 3GPP
SpaceX & Starlink

- 12,000 in orbit by 2026
- BBC, TV2 small scale trials
- 5G integration
MEC & HYBRID CLOUD – WHY?

“More advanced” media production workflows demand

High ingress **Bandwidth**

- Cost
- Availability

Minimal **Latency**
OBJECTIVES (1/2)

Market Status (MEC & HYBRID) - Broadcasting Context

- Flexibility
- Scalability
- Cost effectiveness / Business Models
- Deployment Strategies
  - Hybrid vs Public vs Edge
  - Disaster Recovery vs Main Workflows
OBJECTIVES (2/2)

Broadcasters’ Requirements

- Networking
- Cloud architectures
- Resources dimensioning
DEMO SETUP

Azure Cloud (AMS)

Zixi VPC

Juniper VPC

NETINSIGHT VPC

NETINSIGHT CONTROL LAYER

Zixi BROADCASTER

NETINSIGHT EDGE

NETINSIGHT REGION

Azure Stack Edge

CVIP

REFLEKTOR

JUNIPER SSR

vRouter

NDI, H.264, HEVC In

On prem

L3 SWITCH

10.10.10.11/24
10.10.10.12/24
10.10.10.13/24
10.10.11.11/24
10.10.11.15/24 *NAT
185.200.200.201

LAG

L3

10.10.1.1/30
10.10.1.2/30

SHOW AREA (WiFi)

Edge MV

Cloud MV

vSwitch

10.10.11.1/24
10.10.11.13/24
185.200.200.20/29

vRouter

JUNIPER SSR

100 M

185.200.200.20/29

vSwitch

AZURE VPN (Zixi and Netinsight Traffic)

Internet

100 M

17.85.23.1
124.25.36.21

ZIXI BROADCASTER

wan

10.10.100.2/24

NETINSIGHT EDG

CONNECT

wan

10.10.100.3/24

10.10.11.16/24
10.10.11.14/24
10.10.100.1/24

ZIXI EDGE

wan

10.10.100.2/24

10.10.12.16/24
10.10.100.1/24

NETINSIGHT EDGE

REGION

wan

10.10.100.3/24

10.10.12.18/24

NETINSIGHT EDGE

ZONE

wan

10.10.100.2/24

10.10.12.18/24

NETINSIGHT EDGE

REGION

wan

10.10.100.3/24
ON PREM ENCODING @ EVERTZ

LOCAL
NPN
LEO

H.264
JPEG-XS
ZIXI
NDI

EDGE CLOUD @ EVERTZ

JPEG-XS to H.264
H.264 to H.264
SRT OUT
NDI to HEVC SRT OUT
JUNIPER SSR
NETINSIGHT TUNNEL
ZIXI TUNNEL
MULTIVIEWERS

AZURE STACK EDGE NODE 1/2/3

AZURE CLOUD @ AMSTERDAM

PUBLIC INTERNET

SSR TUNNEL
ZIXI TUNNEL
NETINSIGHT TUNNEL

DEMO SETUP - PROPOSAL
Small Scale NPN
Distributing 5G Content at IBC

Roaming 5G Camera
Hall 1 / 5

Vislink HCAM +
5G Tx

Vislink HCAM +
5G Tx

5G Radio Head
Hall 1 - 5

Strathclyde 5G
Core

IBC Accelerator
Stand

Vislink Quantum

IP TS

IP TS

Vislink Stand

IBC Digital