Distributed Production with ST-2110 over WAN

Thomas Wahlund
Net Insight

Live Production in Transformation

Technological advancements enables efficiency improvements in live production

- OB Production
- Remote Production
- Distributed Production
- Cloud Production
- AI Production
Requirements for Transformation

Requirements:

- **Operations**
  - **Resource optimization**
    - Manage & optimize resources for cost optimization and business decision support
  - **Workflow consistency**
    - To enable scale advantages, workflows must be consistent across geographic locations
  - **Automation**
    - Automation is the key to industry-level gains in production efficiency

- **WAN**
  - Reliability, service flexibility, clear demarcation, domain integrity

ST-2110: A Key Enabler for Transformation

- **Format Agnostic**
  - Support for future production formats
  - All services on one common infrastructure

- **Essence Streams**
  - Separation of audio, video and data production workflows

- **Agility & Virtualization**
  - Save cost and improve flexibility with software, COTS & Cloud resources
Challenges with ST-2110 over WAN

Live production requirements
- Lossless transport
- Strict BW guarantees
- High bandwidth
- Synchronization
- Multicast
- Low delay
- Security & integrity
- Workflow consistency
- End-to-end control

LAN/WAN Adaptations

What is offered from network service providers
- Dedicated Fiber
- OTN
- Ethernet VPN
- IP MPLS
- L3 VPN
- Internet Mobile 4G/5G

Well defined service characteristics

Challenges of ST-2110 over WAN

Traffic Control

Guaranteed Bandwidth

Burst Control

Service Isolation

Capacity Utilization
Challenges of ST-2110 over WAN

Multi-Domain Integrity

Operator Domain

ST 2110

ST 2110

Timing & Synchronization

GPS vs Network distributed time

On-path PTP support

COTS media transport services
COTS Wide-area Network Services

Media specific requirements vs standard WAN service offerings

MEF: Clear definition of service characteristics without limiting technology and innovation

Conclusions

The future of live production lies in the move to new distributed workflows and ST-2110 is the key enabler

To reach full potential, we emphasize the importance of running native ST-2110 essence streams end-2-end over any WAN infrastructure

For consistency, we need to adapt to service providers’ existing WAN portfolio, such as MEF
Thank You

Thomas Wahlund, Net Insight
Thomas.Wahlund@netinsight.net