SMPTE Atlanta Chapter
IBC 2019 Recap
Standards and Trends

Luann Linnebur
Nevion
Sept. 23, 2019
5 days  55,000+ attendees  1,700 exhibitors  300 speakers

Thank you for attending IBC2019
IBC Recap Topics

• 2019 Devoncroft Executive Summit | Amsterdam
  • The Business of Media Technology

• IP Showcase
  • Tested Product Catalog
  • Demos and presentations

• Future Zone
  • What’s coming in NMOS and elsewhere

• Joint Demos and Announcements
  • 2110, JPEG XS, Partnerships
Devoncroft Market View

Strategic Industry Analysis: Identifying Value in Today’s Market
September 2019

Josh Stinehour, CFA
Principal Analyst
jstinehour@devoncroft.com
2019 Big Broadcast Survey Trend Index

Source: Devoncroft Big Broadcast Survey 2019

- IP networking & content delivery
- Multi-platform content delivery (OTT, web, mobile etc.)
- 4K (UHD)
- Artificial Intelligence / Machine Learning
- Move to automated workflows
- 5G
- Cloud computing / Virtualization
- Transition to multi-channel/Dynamic delivery
- File-based / tapeless workflow
- Improvements in video compression efficiency
- High Dynamic Range (HDR)
- Cyber Security
- Remote production (REM)
- Virtual Reality
- Next-generation broadcasting (ATSC 3.0, DVB-T-2 etc.)
- Targeted / Programmatic advertising
- Video on demand (VOD)
- Centralized operations (playout, transmission etc.)
- Transition to HDTV operations / 5Gb/s (1080p) operations
- Outsourced operations (playout, transmission etc.)

2019 Big Broadcast Survey Global Trend Index
So there is a lot of Good News

Performance of All Product/Service Categories Since 2012

#1 IaaS - Compute / Storage
#2 Blade Servers
#3 Digital Video Recorders
#3 ENG Cameras
#2 Master Control Switchers
#1 Analog TV Transmitters
There are Still Obstacles

What is the Biggest Obstacle preventing you from achieving your goals with Cloud Computing / Virtualization?

Bandwidth  Staff/Training  Cost
Integration/Workflow  Security  Reliability
Egress Cost

Vendors Not Ready  Applications Not Ready
Don't Know Technology  Opex Business Model
Management/Culture

Source: Big Broadcast Survey 2018 - 2019
Starting to heat up for services
Challenge for Application Layer
How does a vendor plan for this?
Ways to monetize

“One of the most exciting things about the transition to cloud-based processing is that we have an atomic cost for every microservice in the supply chain. That cost used to be buried in a depreciation amount that was below the line expense for all the brands that we serviced in WarnerMedia. Now it is a consumption-based cost that is directly related to a piece of content.”

Michael Koetter
SVP, Media Technology & Development

WARNER MEDIA
The Technology Pyramid for Media Nodes
Minimum User Requirements to Build and Manage an IP-Based Media Facility.

Time and Sync
- PTPv2 configurable within SMPTE and AES profiles
- Multi-interface PTP redundancy
- Synchronisation of audio, video and data essences

Configuration and Monitoring
- IP assignment: DHCP
- Open configuration management - e.g., API, config file, SSH CLI, etc.
- Open monitoring protocol - e.g., syslog, agent, SNMPv3, etc.

Media Transport
- Single link video SMPTE ST 2110-20
- Software-friendly SMPTE ST 2110-21 Wide video receivers
- Universal, multichannel and low latency audio SMPTE ST 2110-30 Level C
- Stream protection with SMPTE ST 2022-7

Discovery and Connection
- Discovery and Registration: AMWA IS-04
- Connection Management: AMWA IS-05
- Audio channel mapping: AMWA IS-08 (in dev.)
- Topology discovery: LLDP

Security
- EBU R 148 Security Tests
- EBU R 143 Security Safeguards
- Secure HTTPS API calls

EBU TECH 3371 - December 2018
# AIMS Roadmap – July 2019

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<th>SDI over IP Baseline</th>
<th>Audio over IP</th>
<th>Standardized Transport of Audio, Video, &amp; ANC Elements</th>
<th>System Environment &amp; Device Behaviors</th>
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<td>SMPTE ST 2022-6 SDI Over IP</td>
<td>AES67 Audio Over IP</td>
<td>SMPTE ST 2110-10 Timing &amp; Definitions&lt;br&gt;SMPTE ST 2110-20 Uncompressed Video&lt;br&gt;SMPTE ST 2110-21 Packet Pacing&lt;br&gt;SMPTE ST 2110-30 AES67 Audio&lt;br&gt;SMPTE ST 2110-31 AES3 Compressed Audio&lt;br&gt;SMPTE ST 2110-40 Ancillary Data</td>
<td>PTP, DHCP, LLDP, DNS-SD Network Environment&lt;br&gt;AMWA NMOS IS-04 Discovery &amp; Registration&lt;br&gt;AMWA NMOS IS-05 Connection Management&lt;br&gt;System Resource&lt;br&gt;Critical System Parameters</td>
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**AIMS Roadmap – July 2019**

SMPTE ST 2022-6  
AES67  
SMPTE ST 2110  
JT-NM TR-1001-1
Joint Task Force on Networked Media

JT-NM Tested Program
August 2019

Get your free copy of the test results

http://jt-nm.org/jt-nm_tested/
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**LEGEND**
- Green square = test passed
- Grey square = test failed or not tested
- White square = test not applicable
## JT-NM Tested Event August 2019 – SMPTE ST 2110 Results

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## JT-NM Tested Event August 2019 – AMWA NMOS/JT-NM TR-1001-1 Results

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Aggressive rollout of new tech
Ultimate solution
Deployments discussed
JPEG XS over 2110 Deployment
More companies collaborating
Not all work with Happy Hour each day
That’s a wrap from IBC

Thank you
Luann Linnebur
Dir. Broadcast Industry Standards
Llinnebur@nevion.com