



**☑** Tuesday 14 July



9:30am ET / 2:30pm BST

Stan Moote - Chair CTO





**Dennis Breckenridge** 



Marc Risby CTO



**Karl Paulsen** сто





**Andrew Starks** 





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### IPMX: A Profile for Pro AV

Andrew Starks, Macnica Americas





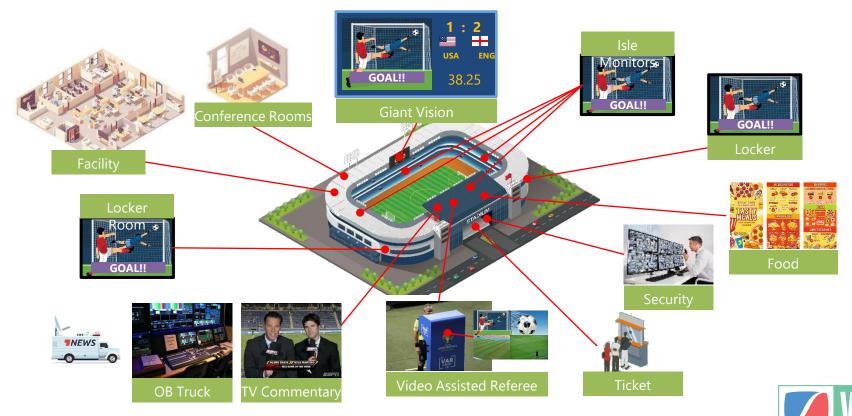


IPMX (Internet Protocol for Media Experience) is a set of open standards and specifications to enable the carriage of compressed and uncompressed video, audio and data over IP networks.

It includes provisions for control, copy protection, connection management and security

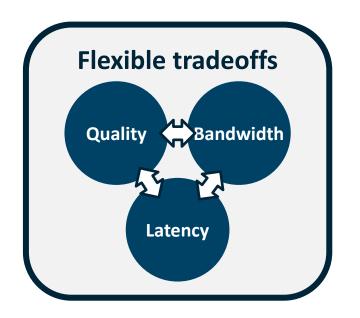


### We're all just video again...



**VIDEO SERVICES FORUM** 

### What is needed for AV over IP for Pro AV?







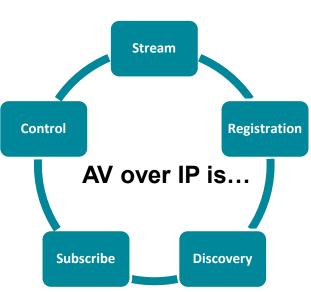


## What is Meant by AV over IP?

- Move streams (audio, video, ancillary, control) through an IP network
- Synchronized (A <-> V and also different sources)
- Low-Latency (<1 Frame)</li>
- Publish, Discover, Subscribe,
   Stream and Control

Could be used in place of HDMI or DisplayPort





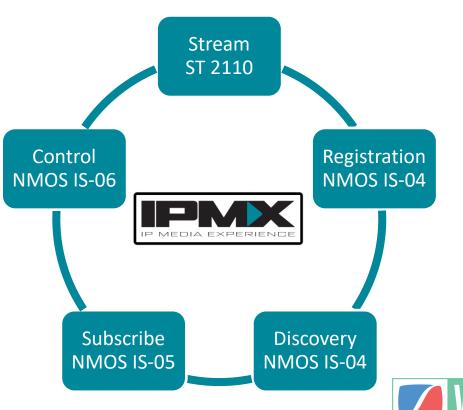


### ST 2110 and NMOS

- SMPTE ST 2110 Transport
  - Essence Streams
  - Timing
  - Description
- NMOS

(Networked Media Open Specification)

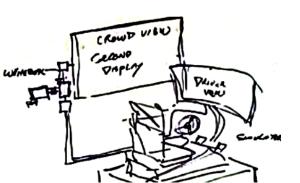
- Registration
- Discovery
- Subscribe
- Control

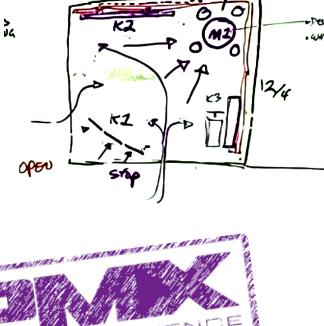


VIDEO SERVICES FORUM

## ISE 2020: The Push

- AIMS Pro AV Working Group...
  - Created name for ST 2110, NMOS, etc: IPMX
     (IP Media Experience)
  - Created ISE 2020 marketing campaign
  - Recruited motivated members to push a roadmap proposal through AIMS in time for ISE 2020





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HOWMORH

# **IPMX Draft Roadmap**

Audio over IP	Standardized Transport of Audio, Video, & ANC Elements	ProAV Standards & Specifications	
AES67 Audio Over IP	SMPTE ST 2110-10 Timing & Definitions SMPTE ST 2110-20 Uncompressed Video SMPTE ST 2110-21 Packet Pacing SMPTE ST 2110-30 AES67 Audio SMPTE ST 2110-31 AES3 Compressed Audio SMPTE ST 2110-40 Ancillary Data	SMPTE ST 2059 Timing Syncronization SMPTE 2110-22 JPEG-XS Video Compression SMPTE ST 2110-41 EDID/DisplayIP/HPD AMWA NMOS IS-04 & IS-05 Discovery, registration & connection management	AAC Audio Compression HDCP Copy protection General Purpose I/O IR Remotes, GPIO, USB, RS232 over IP AMWA NMOS IS-08 Audio channel mapping IPv4 & IPv6 Network addressing Security Authentication, Encryption
AES67	SMPTE ST 2110	"IPMX"	
		Required	Optional

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