

IPMX Activity Group Report

June 2023

Jack Douglass (PacketStorm)

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IPMX Activity Group

- Chairs:
 - Jack Douglass (PacketStorm)
 - Jean Lapierre (Matrox)
- Meeting:
 - Every week on Tuesday 8am PST
 - Next meeting is Tuesday June 6, 8:00am to 9:00am PT
 - Contact Jack Douglass or Bob Ruhl if you would like to join the IPMX Activity Group.
- IPMX – Internet Protocol Media Experience
 - IPMX series of Technical Recommendations that will be published as TR-10
 - Enables the carriage of compressed and uncompressed video, audio and data over IP networks for the ProAV market
- Working with JT-NM and AMWA

IPMX Activity Group

Aaron Doughten (Sencore)	Charles Buysschaert (Intopix)	Jean-Baptiste Lorent (IntoPIX)	Phil Nguyen (Nextera)
Alain Bouchard (Matrox)	Chris Lapp (Cisco)	Jed Deame (Nextera Video)	Prinyar Boon (Phabrix)
Albert Faust (Arista)	Clark Williams (Christie Digital)	JJ Eynon (CNN)	Raul Diaz (Intel)
Andre Testa (Matrox)	Daniel BOUQUET (Analogway)	John Belstner (Intel)	Raymond Hermans (Adeas)
Andreas Hildebrand (ALC NetworX)	Danny Pierini (Matrox)	John Dale (Media Links)	Robert Welch (Arista)
Andrew Starks (Macnica)	David Chiappini (Matrox)	John Fletcher (BBC)	Ron Stites (Macnica)
Antoine Hermans (Adeas)	David Mitchinson (Appear TV)	Karl Johnson (Christie Digital)	Tadahiro Watanabe (Macnica)
Arnaud Germain (Intopix)	Gerard Phillips (Arista)	Karl Paulsen (Diversified)	Teiji Kubota (Macnica)
Ben Cope (Intel)	Greg Schlechter (Intel)	Marc Levy (Macnica)	Thomas True (NVIDIA)
Brad Gilmer (VSF)	Greg Stigall (Warner Media)	Mike Boucke (AJA)	Tim Bruylants (intopix)
Bob Ruhl (VSF)	Jack Douglass (PacketStorm)	Paulo Francisco (Evertz)	Wes Simpson (LearnIPvideo)
Cassidy Phillips (Imagine)	Jean Lapierre (Matrox)	Peter Brightwell (BBC)	

Project Status

IPMX Project Status						
Document Number	Document Name	Started Work	Finalizing	Submitted for Review / Approval	Posted VSF Website * Submitted Update	Tested at IPMX "Dirty Hands" Workshop
TR-10-0	Document Organization				Draft	
TR-10-1	System Timing and Definitions document				* Draft	
TR-10-2	Video				* Draft	
TR-10-3	Audio				* Draft	
TR-10-4	Ancillary Data				Draft	
TR-10-5	HDCP Key Exchange Protocol (HKEP) Copy Protection				Draft	
TR-10-6	Forward Error Correction (FEC)					
TR-10-7	Variable Bit-Rate Compressed Video					
TR-10-8	NMOS Requirements				Draft	
TR-10-9	Minimum Requirements to be IPMX					
TR-10-10	HDMI Info Frame					
TR-10-11	Constant Bit Rate Compressed Video				Draft	
TR-10-12	AES3 Transparent Transport (Audio)				Draft	
TR-10-13	VSF_TR-10-13: Privacy Encryption Protocol (PEP)					
AGR-1-1	Selecting Network Switches for Pro AV Applications					
AGR-1-2	Methods for Testing Switches for Pro AV Applications					

IPMX Dirty Hands Interop

- Purpose: Validate the IMPX Technical Requirements documents before final release
- Location: NFL Los Angeles
- Dates: March 6 to March 8
- Participating Companies
 - intoPix, Macnica, Matrox, Meinberg, Nextra/Adeas, PacketStorm, and PB Technologies Group

IPMX Dirty Hands Interop



Interoperating IPMX VIDEOS



Interop Conclusions

- No issues with the Recommendation TR-10-1 Timing spec.
 - TR-10-1 enables operation without PTP present.
 - No issues were found when operating with or without PTP present.
 - In a ST 2110 network with PTP, IPMX devices were able to receive signals from the ST 2110 device we had access to
 - In a ST 2110 network with PTP, The ST 2110 device we had access to was able to receive the IPMX asynchronous signals
 - Some visual artefacts were present
- No issues with Recommendation TR-10-2 Video Uncompressed Spec. YUV 422 10 bits and RGB 444 8 bits.
- All participants had working implementation of IS-04 and IS-05 which enabled us to conduct the test more efficiently.

End of Slides

