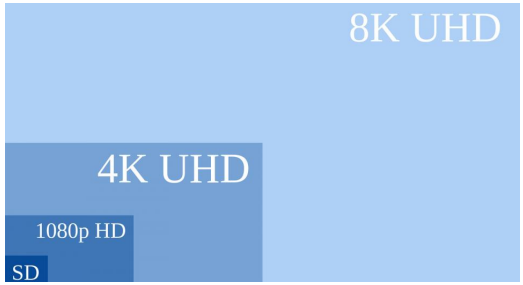
IP SHOWCASE
REAL TIME MEDIA
Professional Media Over IP
AUDIO AES Audio Engineering Society
AIMS Alliance for IP Media Solutions
AMWA
EBU
iabm
Media Networking Alliance
SMPTE
VSF VIDEO SERVICES FORUM

WHY IP?

- The ***pace of change*** is faster than ever

Multi-platform



Increasing resolutions/frame rates

Wide Color Gamut
High Dynamic Range

- IP has been proven to deliver greater ***flexibility, agility and efficiency*** in multiple industries

- It is now doing the same in all facets of broadcast, even in ***live production***

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INTRODUCING SMPTE ST 2110

- **SMPTE ST 2110** is a common, worldwide suite of standards for transport of real-time media over IP in professional applications

- **Essence** Based
  - Video, Audio and Ancillary Data are separately routable IP streams

- Ideal for multiple applications including **Live Production, Playout & Contribution** Applications

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THE SMPTE ST 2110 SUITE IS COMPRISED OF MULTIPLE STANDARDS

System Timing and Definitions: SMPTE ST 2110-10

- Covers the system as a whole, the timing model, and common requirements across all essence types

Uncompressed Active Video: SMPTE ST 2110-20

- Documents the IP transport of uncompressed active video using an RTP format based on IETF RFC 4175

PCM Digital Audio: SMPTE ST 2110-30

- Documents and constrains the use of IP-encapsulated PCM audio in a manner ***based on and compatible with AES67***

Audio Engineering Society

As of IBC, these 3 documents are **approved standards**

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THE SMPTE ST 2110 SUITE IS COMPRISED OF MULTIPLE STANDARDS

Ancillary Data: SMPTE ST 2110-40*

- Documents the IP transport of SMPTE ST 291 ancillary data using an RTP mapping based on an IETF draft

Traffic Shaping and Delivery Timing for Uncompressed Active Video: SMPTE ST 2110-21*

- Specifies the traffic shaping model for senders and corresponding requirements on receivers of SMPTE ST 2110-20 (video) streams

* In Final Committee Draft (FCD) stage within SMPTE

Interoperability with respect to the three ST 2110 standards (-10, -20, -30) and the above two ST 2110 final committee drafts (-40, -21) is being demonstrated here at the IP Showcase

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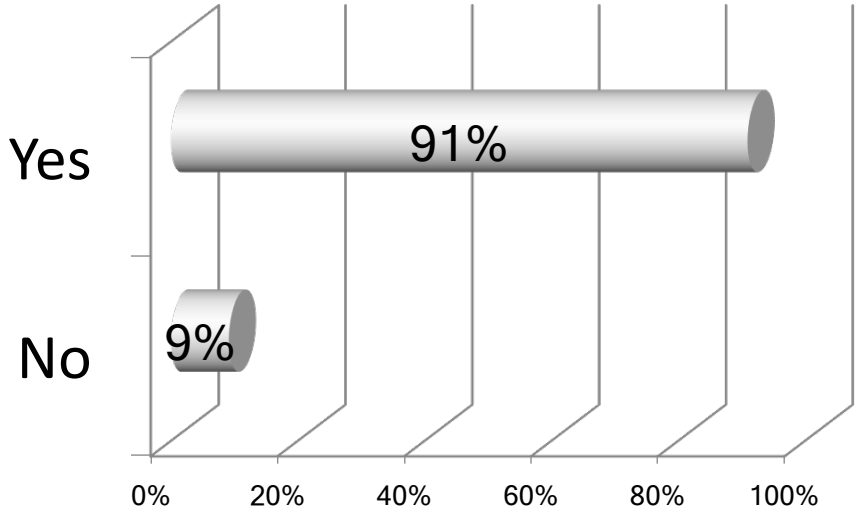
RAPID IMPLEMENTATION PROGRESS TOWARDS SMPTE ST 2110

Survey Results from September 2017

AIMS
Alliance for IP Media Solutions

Question #1: Will your company be shipping SMPTE ST 2110 product to market by Q2 2018 (not including alpha, beta or proof of concept)?



**22 AIMS members responded to the survey*

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RAPID IMPLEMENTATION PROGRESS TOWARDS SMPTE ST 2110

Survey Results from September 2017

AIMS
Alliance for IP Media Solutions

Question #2: Please list the categories you plan to ship by Q2 2018.

Video servers

Video processing modules

Integrated playout servers

CG's

Channel-in-a-box

IRD's for contribution and primary distribution

Multi-viewers

NLE's

Compliance logging & monitoring

Cameras

Audio processing systems

Vision mixers

I/O cards

Video processing systems

Audio mixing consoles

Encoder/Decoder cards

Test & measurement equipment

Control servers

IP processing nodes

Modular infrastructure

Playout & capture cards

Real-time graphics engine & compositor

Broadcast displays

Routing systems

IP-SDI gateways

Production asset management systems

Media processors for contribution and primary distribution

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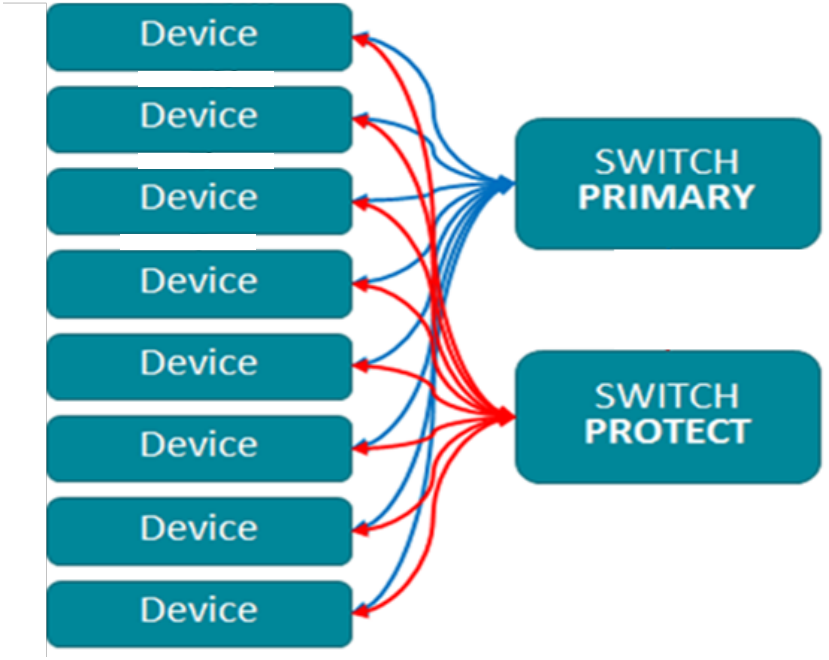
EXTENDING THE ADVANTAGES OF IP: REDUNDANCY

With SMPTE ST 2022-7, Seamless Protection Switching, one can have a cable, fiber, connector, or network switch failure with ***zero interruption*** of signal



SMPTE ST 2022-7 is widely supported and is being demonstrated here at the IP Showcase

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EXTENDING THE ADVANTAGES OF IP: REGISTRATION AND DISCOVERY

- **AMWA IS-04** allows devices to be ***discovered*** and ***register*** their services on the network

- This ***automates*** what is a manual process with SDI based systems

AMWA
Networked Media. Working.

AMWA NMOS IS-04 is widely supported and is being demonstrated here at the IP Showcase

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EXTENDING THE ADVANTAGES OF IP: CONNECTION MANAGEMENT

- **AMWA IS-05** ***(new*)*** provides a ***common***, ***open*** API for any vendor to establish connections between SMPTE ST 2110 devices

- AMWA IS-05 combined with AMWA IS-04 provides the functional equivalent of "***plug & play***" for professional media over IP systems

AMWA
Networked Media. Working.

*AMWA IS-05 is expected to be published in early October and is being demonstrated for the 1st time publicly (at the wall to your immediate left) with 18 companies participating

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IP SHOWCASE INTEROP PARTICIPANTS

Broad interop participation from across the industry, 52 companies!

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IP SHOWCASE PARTNERS

Audio Engineering Society

AIMS Alliance for IP Media Solutions

AMWA Networked Media. Working.

EBU

iabm

Media Networking Alliance

SMPTE

VSF VIDEO SERVICES FORUM

Unprecedented Collaboration Continues!

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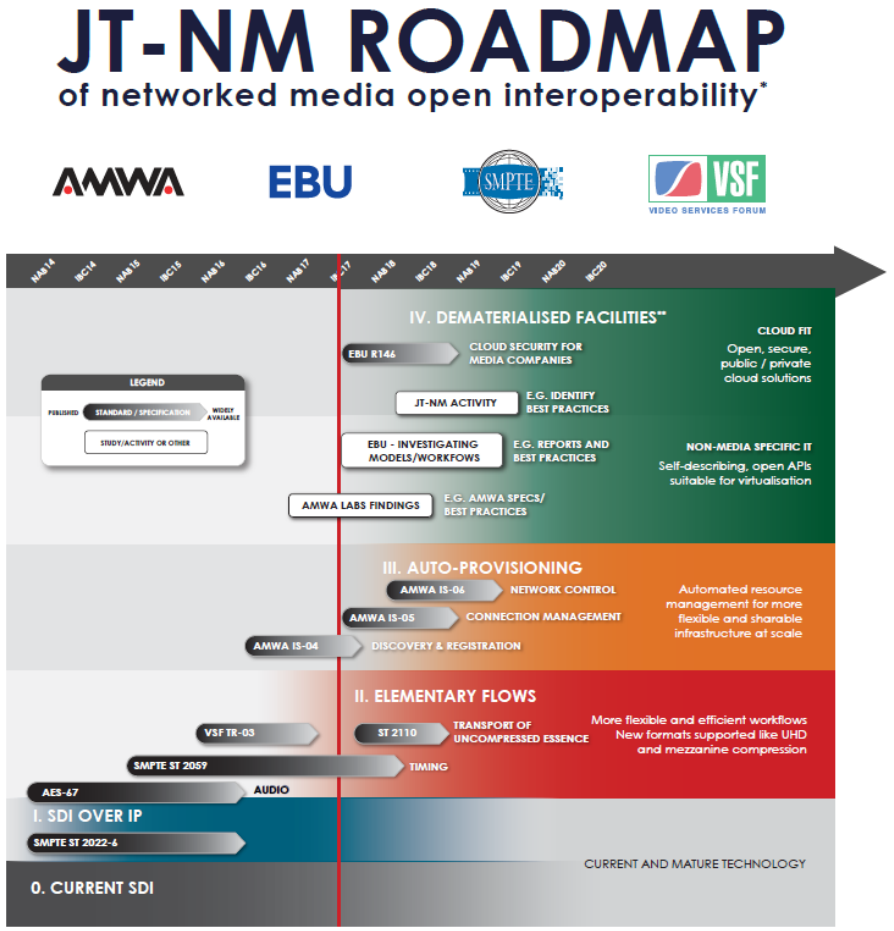
A ROADMAP FOR THE FUTURE

The Joint Task Force on Networked Media (JT-NM) has a roadmap providing an interoperable path to higher level functionality

The work continues toward a more agile, dynamic future



* JT-NM assumption as of August 2017 and will evolve over time. Visit JT-NM.org for the latest update
** Additional information on Dematerialised Facilities is available at the IP Showcase and at jt-nm.org.

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ACKNOWLEDGEMENTS

The IP Showcase Sponsors wish to thank the following companies for their contribution to the IP Showcase Interoperability Demonstration

21ST CENTURY FOX

BELDEN
SENDING ALL THE RIGHT SIGNALS

Diversified.
IMAGINATION ENGINEERED

IRT

Video Clarity
Tools for Video Analysis

We would also like to thank the hundreds of people contributing to the IP standardization & development process in our industry. This effort represents tens of thousands of hours of work across multiple continents.
Thank you!

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