SMPTE PDA Now: DTV Transition: Working Through the Early Challenges

SMPT E PDA Now
DTV Transition:

Working through the early challenges of a post analog world.

Thursday February 5, 2009

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Your Host

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SMPTE PDA Now

• Series of monthly 1-hour online, interactive webcasts covering a variety of technical topics
• 2nd Thursday of each month
• Free professional development benefit for SMPTE members
• Sessions are recorded for member viewing convenience.
Housekeeping

- Please use the text chat function to submit questions to the speaker
- Please feel free to add to the discussion or offer additional information via text chat
- In the rare instance that the slides seem to not progress, try closing your browser and signing in again

Today’s Speaker

William T. Hayes
Director of Engineering
Iowa Public Television
All Ahead … STOP!

• Analog shutoff is delayed until June 12, 2009.
• The reasons:
  – Many people are unprepared;
  – The NTIA coupon program out of money
  – Almost half of the coupons currently issued have expired without being redeemed
  – The waitlist is over 3M
  – The most seriously impacted groups are elderly, minorities and lower income.

Impact of a Delay

• Pros:
  – More time for current DTV adopters to resolve reception issues
  – More time for Congress to authorize funds for program to cover the waitlist and expired coupons
  – More time for those who are not ready to take the necessary steps
  – Better weather for viewers (especially in the northern areas) to make any improvements to their external receive systems.
Impact of a Delay

- Cons:
  - Delays freeing up spectrum for resale
  - Delays broadcasters from making transition to their final facilities
  - Confusion/doubt in the marketplace
  - Unplanned costs for continued operation of analog systems
  - Ripple effect through the industry as project schedules slide

The Shutoff Will Happen

- Things that currently wake me up in the middle of the night.
  - Active Format Description
  - Wide Screen Production
  - On-going Audio Issues
  - Workflow
  - System Sustainability
  - Content Creator Rather then Content Carrier
Active Format Description (AFD)

• There’s a standard, what’s the problem?
  – Cable/Satellite Issues
    • The majority of viewing audience consumes content delivered by these services,
    • Broadcaster offered the option of “center cut” or “letterbox” for services delivered to 4x3 receivers,
    • Choice varies based on how content was produced and should be made on a program by program basis,
    • Many cable operators have installed AFD capable receivers but some have instruction from corporate not to implement it because it is not ready.
    • The end result is a viewer experience that has poorly cropped programming with important video content missing or postage stamp video.

Active Format Description (AFD)

• There’s a standard, what’s the problem?
  – Digital Receiver Issues
    • I recently saw a note from a major network that they have discovered that one of the most popular DTV set manufacturers handles changes in AFD by going to black for about 1 second.
    • I have seen similar implementations on a number of the converter boxes that are AFD capable.
Active Format Description (AFD)

- There’s a standard, what’s the problem?
  - Station issues
    - There is no consistency in where in the Vertical Ancillary Data Space (VANC) from manufacturer to manufacturer.
    - Some storage devices do not store the entire VANC but let the user pick a few lines to store. If the data is not consistently on the same line it may not be stored.
    - Some storage and editing systems don’t store it at all.
    - Some devices, such as up and down converters, handle it the same as previously mentioned receivers.

Wide Screen Production

- Lack of format implementation
- Large number of broadcasters creating local content in 4x3.
  - Local news
  - Local spots
- Many that create 16x9 content still shoot for 4x3 displays.
On-Going Audio Issues

• Loudness
  – Not a new issue and thought to have been fixed long ago.
  – Technology in viewers homes has improved and issue is more apparent.
  – Hate them or love them, industry broadcasters, cable systems and satellite providers need to agree on standards for audio performance and adhere to them.
  – Standards organizations must include well defined recommended practices as part of standards creation process.

On-Going Audio Issues

• Audio/Video Synchronization
  – This is also not a new issue
  – Thought it was fixed a long time ago.

• What’s needed?
  – Tighten up the specifications
  – Manufacturers and implementers need to look at the system from origination to destination.
  – At every point in a chain (where possible) there should be resynchronization
System Sustainability

- Non Functioning Products
  - Manufacturers need to ensure products are ready prior to selling and delivering.
    - Has expecting a product to work out of the box become and unreasonable expectation?
  - Broadcasters must ensure equipment purchased is ready.
    - Did we forget about not buying “vaporware?”

System Sustainability

- On-Going Costs
  - System maintenance costs for many small and medium sized organizations are rapidly approaching the point where they cannot be supported by shrinking operating budgets.
System Sustainability

• Lack of Knowledge
  – Some Broadcast engineers don’t understand IT based infrastructures
  – Some IT engineers don’t understand broadcast based infrastructures
  – Training and educational opportunities are needed to bridge this gap.

System Sustainability

• Competition
  – The audience has more choices
  – Broadcasters need to look beyond traditional delivery systems
  – Understand their content will be available on multiple platforms.
Creation Versus Carriage

- Sustainability for local broadcasters is being creator of unique content.
- Creating local content is the most expensive
- Broadcasters’ limited funding should be focused on creating content.
- Systems must be designed to be cost effective to operate and maintain.

Wireless is Cool

- Television broadcasting has been wireless since it began in the 1930’s
- When did we stop being cool?
- Television broadcasters need to embrace new mobile opportunities.
- People watch content not technology
- Without mobile broadcast creating content is where the value is.
Questions

William T. Hayes
Director of Engineering
Iowa Public Television

Next Week

• February 12, 2009
  1:00 PM - 2:00 PM Eastern

  DVT Transition: Terrestrial DTV Signal Reception - An Update From the Field
  Guest Speaker: Pete Putman, ROAM Consulting LLC

Please join our guest speaker, Pete Putman of ROAM Consulting, as he shares field test results that demonstrate just how well these receivers work for indoor and outdoor reception of 8VSB signals with simple antennas, through mountains, over long distances, and even underground, using the latest standalone set-top boxes and NTIA converter boxes.
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