



Compression Update:

Advanced Codecs Standardization Activities

J. Patrick Waddell, Harmonic,
Chair of ATSC TSG/S6



Base Standardization is Complete

- ▶ MPEG AVC
 - ITU-T H.264
 - ISO/IEC 14496-10
 - (... and a few other names!)
- ▶ SMPTE VC-1
 - SMPTE 421M
- ▶ Both provide complete codec specifications
- ▶ “But how do you USE it in a given delivery system?”
 - Closed captions
 - AFD
 - etc.

SDO system “constraints” drafting

- ▶ DVB is largely complete for AVC
 - Some additional refinements will be made
 - DVB just starting work on VC-1
- ▶ DVB specified AFD for AVC
- ▶ DVB also specified “random access points” for PVR applications
- ▶ DVB did not focus on channel change times, per se

SDO system “constraints” 2

- ▶ ATSC has specified constraints for both
 - Both coding and transport of AVC -> CS
 - Coding of VC-1 -> CS/transport draft complete
- ▶ ATSC kept compatible with DVB
 - Did not address PVR at all
- ▶ SCTE has begun work on AVC
 - VC-1 after that is complete
 - PVR support important as is channel change time
- ▶ Telco industry???

Why is this important?

- ▶ Should ensure greater interoperability worldwide
- ▶ Fewer variants to be supported
- ▶ Facilitates features like ad insertion, PVR, ...
- ▶ Perhaps CE devices might be simpler

Open Issues

- ▶ SCTE's work is still very incomplete
- ▶ ATIS work has little participation from encoder vendors
- ▶ DBS systems could not wait for anyone and have moved forward with some proprietary aspects

Not strictly “compression” but...

- ▶ “Food Chain” issues:
 - Closed captions – studio → station → home
 - aspect ratio metadata (AFD/bar data)
 - ad insertion opportunities
 - traffic → automation → affiliates