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Challenges of MPEG4-AVC HDTV encoding

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Jean-Louis Diascorn

Product Manager – Compression

Grass Valley





- **Picture quality for HD**
 - DTH
 - IPTV
- **Format discussion**
- **A great sound for a great picture**
 - Multi Channel audio encoding
- **Conclusion**



- **DTH focus changes in HD (vs. SD)**
 - Picture quality vs. content quantity
 - HD-DVD and Blue Ray provides great picture quality on all flat panel displays
- **DTH needs astonishing picture quality**
- **GV is working on best possible compression engine**



- **IPTV has limited bandwidth to target large customer base**
- **SD on flat panel is not acceptable for premium content**
- **Extremely good compression performance is needed to provide good picture quality on flat panels with HD**
- **GV is working on best possible compression engine**

1080i, 720P or 1080P ?



- 90% Current Production is 1080i. 1080P is future trend
- Most deployed equipment are 1080i
- HD Displays are natively progressive
- At target bit rates, 1080P starts showing artefacts

➔ 1080i and 720P are the formats to use

- GV has designed a solution to efficiently broadcast both 1080i and 720P on HD displays

Great Picture needs great sound



- **Multi channel audio is a must for HD content**
 - 5.1 is a minimum
 - Also adopted for HD-DVD and BD
- **Used Formats**
 - Dolby Digital and DTS widely available on home cinemas
 - AAC available in Japan
 - AAC+ provides great compression performance for same quality
- **GV HD MPEG4 encoder**
 - embeds Dolby Digital and AAC-LC/HE multi channel encoding
 - can transcode from Dolby E



- **HD is the future of broadcast**
- **Grass Valley and Thomson can accompany the broadcasters for this transition at all stages**
 - Content creation
 - Content processing
 - Content delivery

Thank you!
Questions ?



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