
JCTVC-Z0032 - AHG12: MCTS EXTRACTION USAGE SCENARIO AND SHOWCASE

R. Skupin, Y. Sanchez, C. Hellge, T. Schierl (HHI)

T. Wrede, T. Christophory (SES S.A.)



Fraunhofer
HHI

Usage Scenario: Panoramic Broadcast

- **IBC 2016:** Joint demonstration by SES S.A. and Fraunhofer HHI
- **Video:**
 - 10K x 2K captured with HHI's Omnicam360
 - HEVC encoded via HHI's Software Encoder
- **Transmission:**
 - SES's ASTRA 19.2°E satellites reaching 35 countries
 - Transmission on public channel ongoing
- TV Set as end device allowed presentation of picture subsection (ROI)



Showcase for MCTS extraction

- Video is encoded making use of Motion constrained tile sets
- An mcts_id is signalled for each 2x2 tile combination
- Each RAP includes a MCTS extraction info set SEI carrying replacement parameter sets.
- Optionally, MCTS extraction information nesting SEI messages allow to provide replacement SEI messages after extraction, e.g. Pan-Scan rectangle SEI message, Picture snapshot SEI message, Frame packing arrangement SEI message, Decoded Picture Hash SEI message.
- Desired ROI moves within picture over time



Showcase for MCTS extraction

- At each RAP, the end device decides for an MCTS to extract



Showcase for MCTS extraction

- Further dynamic cropping after decoding allows smooth scrolling

