



**ITU-T Workshop on
"From Speech to Audio: bandwidth extension,
binaural perception"**

Lannion, France, 10-12 September 2008

**Round Table with SDOs –
ITU-T SG16: Multimedia terminals, systems
and applications**

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ITU-T SG16: MM terminals, systems and applications

- SG16 lead Study Group
 - on MM terminals, systems and applications including the coordination of the studies among ITU-T Study Groups
 - for ubiquitous applications ("e-everything")
- SG16 activities include:
 - WP1/16 "Modem, fax, and equipment transmission"
 - Signal processing network equipment & terminals (e.g. PSTN modems and interfaces, facsimile including transport of voiceband data over IP networks)
 - WP2/16 "Multimedia systems and terminals"
 - Conferencing systems
 - Directory services and other enhanced applications
 - WP3/16 "Media coding"
 - Speech, audio, still picture and video coding
 - Q26/16 "Accessibility to Multimedia Systems and Services"
 - Qnew/16 "Vehicle Gateway Platform"

WP1 & WP2/16

WP1

"Modem, fax, and equipment transmission"

- Signal Processing network Equipment (SPNE) including Voice Gateway & Speech Enhancement devices
- To support wider bandwidth applications: **including**
 - **the control and coordination of SPNE in the NTWKs and terminals**

WP2

"Multimedia systems and terminals"

- Including conferencing systems
- From H.323/324 to H.325 ("Advanced MM systems (AMS) for next generation and other packet-switched networks"): **including**
 - **Downloadable codecs**
 - **Discovery of services**
 - **Application plug in etc.**

ITU-T WP3/16 "media coding"

- Q23/16 "media coding", Q6/16 "Visual coding", Q8/16 "Generic Sound Activity Detection", Q9/16 "Variable Bit Rate Coding of Speech Signals", Q10/16 "Software tools for signal processing standardization activities and maintenance and extension of existing voice coding standards"
- **Trends in audio coding : Enhance quality, flexibility and robustness**
 - Quality : Bandwidths ↑ (NB → HiFi) ; channels ↑ (mono → stereo → 3D)
 - Flexibility: Scalable (bit rates, bandwidths, channels), backward interoperability with deployed coders
 - "Universal": speech (clean, noisy), music, mixed content, Error recovery
- ITU-T speech and audio coding standards:
 - G.722.1 C (SWB in 2005), G.719 (FB in 2008/06)
 - Embedded extensions: G.729.1 (G.729EV in 2006), G.711.1 (G.711EV in 2008/01), G.718 (mode G.722.2EV in 2008/06)