Real-Time Interactive Communications Project (RIC)

Co-Chairs: Dave Hands (Microsoft) and John Ralston (Droplet)

This project is directed towards the development of new methodologies for subjective assessment and objective measurement of interactive communications services. Currently, tests designed to measure videoconferencing content apply passive methodologies that are designed and suited to TV-type scenarios but are not representative of interactive conferencing experiences. Today, videoconferencing and extended media communications capabilities present users with a wide set of interaction options (audio, audio-video, IM, presence, desktop or application sharing). These media and communication features have different delay and fidelity requirements and the platform on which users can use these media services cover mobile, slate, laptop, desktop, TV and large screen displays. Conferencing can be two-person as well as multi-person communication interactions. The porject will address the following research questions:

- improvements to ITU-T P.920 methodology for subjectively assessing interactive audio-visual media

    - base methodological requirements

    - capturing data in controlled and natural environments

    - set of metrics for evaluating relationship between quality and task performance

- production of test and data and methodology analysis for different interaction scenarios, using one or more devices (some examples are provided below):

    - mobile-mobile

    - desktop-desktop

    - large screen-large-screen

    - mobile - desktop - large screen combinations

- consideration of different communication achitectures (e.g., P2P, conferencing server)

The tests shuld be designed to consider all potential factors influencing interaction performance and quality, for example:

- network performance characteristics (fixed line, mobile, 802.11x networks)

- effects of QoS and error resiliency techniques

- codec performance

- capture / render performance

- video manipulation processes (e.g., transcoding, pre-filtering, post-filtering)

- AV delay and asynchronisation

- audio quality / video quality trade-offs

- task-dependency (definition of appropriate tasks for interactive methods, consumer versus busines scenarios)

The lists above are indicative only and in means are they exhaustive.

Project Goals

- provide new subjective test methods and data evaluating interactive content

- provide well-defined methodology for interactive conferencing services, define means for collecting quality and performance ratings from users, techniques for analysing test data

- propose a new or improved method to ITU-T for subjective assessment of interactive services

- plan, design and complete validation tests for interactive AV objective measurement models

- propose new objective interactive AV models for international