

The need to re-define QoE and its evaluation techniques within the context of the 5G network

Abstract:

Unlike its predecessors, 5G comes with a few technology disruptions (e.g. mMIMO/3D beamforming, mmW, flexible numerology and slot structure, network slicing etc.); however, the most important disruption 5G comes with is the fact that it is designed as a user centric network. First is by the introduction of the context aware QoE concept. Both the network and the device are aware of each other's conditions within which, they operate and adapt to each other in order to optimize themselves for a particular delivered/consumed service and the user's profile and preference. This is achieved by embedding machine learning and artificial intelligence in the network and devices which, consequently, impacts traditional QoE evaluation techniques. Secondly, the arrival of new services such as VR and AR, which continue to have voice/audio and video components, involve many other aspects that impact user perception and will need to be considered when assessing QoE. Thirdly, the 5G network slices (eMBB, mMTC, URLLC) which unleash new services/verticals delivered to machines as users. Therefore, QoE for these applications impact QoE definition as well as its assessment. Last, but not least, is the QoE "ground truth" definition and creation since traditional subjective testing becomes more and more infeasible; costs as well as real user behavior being just two of the main reasons. Infovista's presentation will address these topics and discuss solutions which they spearhead 5G QoE with.