Democratizing telehealth with Scalable Video Conferencing

Frank Ruge

Correspondence to: Frank Ruge, E-mail: fruge@vidyo.com

Abstract

Videoconferencing has been around for more than 20 years in healthcare. But it never took off in scale. We are at an inflection point today.

The inhibitors for widespread adoption in healthcare have been so far expensive endpoints and infrastructure, required quality of service in the transmission path, standard’s based smallest common denominator quality, enterprise architecture, no presence information and no integration into the workflow.

Scalable Video Coding (SVC) addresses all these inhibitors by standardizing a new annex in the ITU H.264 standardization with the definition of the H.264 SVC (Scalable Video Coding) standard. This standard allows to increase the quality of the video signal with higher image resolution, higher framerates and lower delays in order to create a natural interaction between people, to adapt to the network rather than expecting guarantees from the network, to add resiliency to the system by introduction of scalable video coding, so that video can be transported over lossy network such as wireless and low-bandwidth networks, to give each participant the best quality based on his/her available bandwidth, end system and screen resolution, to leverage the processing power of the desktop/laptops, tablets and smart phones rather than building a heavy centralized infrastructure, to provide the system across many different existing compute platforms to enable BYOD in video conferencing – rather than buying expensive endpoints, to provide interoperability with the H.264 AVC standard and existing room systems.

The practicality, scalability, financial sustainability and usability of this approach is being demonstrated by major telehealth projects such as the Ontario Telehealth Network, the Massachusetts General Hospital, Royal Flying Doctors of Australia, SmokeFreeLife and some others.

Keywords:

Video conferencing, telehealth, telecare