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Video Challenges

By Alex Afshar

Enhanced video services have been identified as the key differentiator of 3G mobile networks. Mobile operators around the globe are launching services such as video calling, video streaming and video mail. The key to acceptance and uptake of these services is to provide a consistent and high quality customer experience at reasonable prices.

As mobile operators upgrade their networks from 2.5G to 3G and next generation cellular networks, video services are regarded as a key differentiator in increasing ARPU. Enhanced video services such as real-time video calling, video mail, video-on-demand and interactive video services are exciting new features that were not feasible on previous generation networks.

However, as with other new technologies or generation leaps, these new services have created operational complexities and technical challenges that didn't exist before. Issues such as call setup time, lip sync and video corruption have become taboo words.

Video telephony provides 3G users with the benefit of next-generation communications, letting people share meaningful moments visually. Video mail complements the video telephony experience by allowing the video call to be completed when the other party cannot take the call. Mobile operators view video mail as an extension of the voice mail service available today and are aggressively launching the service where 3G networks are available. Video mail provides additional customization features such as personalized and celebrity greetings along with other types of innovative visual effects that mobile operators can use to target specific customer segments such as youth and business people.

Video mail architecture is similar to existing voice mail architectures. Depending on the vendor, video mail can be an extension or upgrade to existing voice mail systems.

Video mail servers are typically installed in the IP networks. A multimedia gateway provides the connectivity between a video mail system and the 3G subscribers.

Video mail works similarly to voice mail. When the called subscriber is not available to answer the call, the caller is routed to a video mail system where a customized video greeting is played back to the caller asking the subscriber to

leave a video message. The video message is typically stored in a compressed format on the video mail system.

Video Streaming

Streaming live or pre-recorded content over wireless networks has become an increasing popular service over the past few years and has been embraced by the mobile operators as a key revenue generating application. Typical services include live and pre-recorded TV, real-time content such as traffic and weather, security and surveillance and entertainment portals.

Content streaming has typically been done over packet switched services (PSS) in the 2 and 2.5G networks with inconsistent quality of service (QoS) depending on the network capacity, network busy load among other factors. With the launch of 3G networks and services, mobile operators are increasingly using circuit switched services (CSS) for real-time video telephony services. Streaming using CSS provides several advantages over packet technology. The most important advantage is consistent quality of service provided by synchronous 64Kbps. Other advantages include easy access for dial-a-clip type services and simplified billing. This type of service typically utilizes a streaming server for content storage and delivery that is controlled by RTSP protocol.

The multimedia gateway is an important element in deploying both video mail and video streaming services. The video gateway provides the signaling and medial transcoding between the 3G mobile subscriber and the video mail or streaming platforms. However, addressing quality of service issues such as call setup delays and video corruption are key to delivering and deploying a high quality customer experience. 3G network providers turn to advanced multimedia gateways that incorporate key technologies to solve the technical challenges associated with video mail and video streaming services.

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