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IMS Key to Improved Mobile Profitability

Operators are embracing the transition from legacy mobile technologies to next generation infrastructures. Increasing investments in LTE access networks, and the enhanced packet core, are necessary to satisfy consumers' increasing demand for faster, higher volume, mobile data. To recover these investments mobile operators will need to generate increasing mobile data plan revenues.

The challenge for operators is that mobile consumers are leveraging improved broadband mobile data capabilities to increasingly use free OTT VoIP and video call applications using WiFi hotspots; which are cannibalizing traditional voice service revenues offered by mobile operators. The net effect is that mobile data growth is outpacing mobile operator revenue growth - squeezing operator profitability.

One solution to increased operator revenues and profitability is offering differentiated services like VoLTE, Rich Communications Suite (RCS), mobile video conferencing and other Value Added Services (VAS) using an IP Multimedia Subsystem (IMS) in the cloud. Within the 3GPP standards for IMS is a defined role for the Media Resource Function (MRF) to provide the media processing for real-time voice and video communication services.

VOLTE – THE RESURGENCE OF VOICE
Voice has always been a staple, mass market, service in the operator's portfolio. However, OTT VoIP and video applications are continuing to cannibalize these revenues. And with better data connections, these services will increasingly support HD audio and video services, which will only accelerate this cannibalization.

Operators have responded by expanding their LTE rollouts to also include IMS deployments, supporting cutting-edge IP-based services to defend their voice revenues from these OTT rivals. Currently, many operators are using CSFB, which drops voice

calls back to the 3G network, to provide voice over LTE networks. However, CSFB is not a solution which will scale to support a successful, long term, operator business strategy. One problem is a CSFB strategy requires managing two networks in parallel – 3G and LTE infrastructure. A CSFB strategy also defers the ability to re-farm legacy 3G spectrum for LTE access network growth.

Instead, global operators have come to the consensus that the only route to ensuring high quality, reliable voice is through Voice over LTE (VoLTE). VoLTE is based on an IMS architecture, with IP media processing delivered by the MRF. VoLTE is provided, alongside data and video, through a single IP-based converged packet core, driving CAPEX and OPEX savings, while freeing up 3G spectrum for future 4G growth. However, offering VoLTE goes beyond simple point-to-point calling. VoLTE requires transcoding capabilities between the AMR-WB codec used in VoLTE and legacy codecs. It includes supporting audio VAS services in an IP environment, including audio ring-back tones, conferencing, advertising and IVR services. The industry is offering solutions designed to support all these IMS requirements for VoLTE services, with additional differentiators such as our Voice Quality Enhancement (VQE) feature set, delivering echo cancellation, noise reduction and packet loss concealment specifically designed for mobile VoIP services.

THE IMPORTANCE OF VIDEO
More than any other data type, video is driving huge growth in global mobile video traffic. Mobile video also presents a huge opportunity to operators. Services we see today include video sharing or video streaming (i.e. YouTube or Netflix), or early OTT video calling and conferencing services. However, IMS provides the framework to deliver ubiquitous real-time video calling and conferencing services between any mobile devices.

MRF equipment in the IMS will provide the transcoding and transrating between devices using different video codec standards, screen sizes, or dynamically changing bandwidth

Radisys MRF enabled world's first VoLTE deployment at MetroPCS

availability. IMS will also support video VAS services including video ringback tones, interactive voice and video response (IVVR), and HD video streaming with geo-location advertising, allowing operators to leverage their intimate knowledge of their subscriber base and location to differentiate their offerings.

DEFINING MOMENT FOR MOBILE
The introduction of WebRTC (Web Real-Time Communication), driven by Google and Microsoft, is posing yet another challenge to mobile operators. WebRTC enables browser-to-browser applications, with no plugins, for voice calling, video communication and in-game voice chat. It is still unclear how much traffic WebRTC will generate through browsers, or, indeed, how this will impact LTE operators' networks. What is certain is that many companies will have access to WebRTC, so we can expect innovations in this area to increase. IMS MRF equipment will be required to ensure interworking between WebRTC and legacy codecs and communication networks.

The mobile industry is also continuing its response to OTT competition by pushing on with Rich Communication Suite (RCS); and last year JOYN was revealed as the consumer facing brand for RCSe. JOYN will allow customers using any mobile device to chat and enrich their messaging or voice calls by

exchanging images or video simultaneously during calls. Real-time services in RCSe and JOYN also will also drive a need for IMS MRF.

While the original 3GPP architects for the IMS likely envisioned deployment in traditional network central office or private data centers; the same IMS architecture is readily applicable to evolving cloud deployment models. Operators choosing a cloud approach will need to ensure carrier-level reliability through QoS-enabled networks, policy enforcement, and distributed load-balancing architectures to ensure a differentiated, superior user experience compared to OTT approaches.

Operator investments in LTE networks without an IMS services strategy is conceding high-margin service opportunities to non-operator players in the industry. It is our belief that incremental investments in an IMS services will improve ARPU and mobile operator profitability. Operators must ensure they have the service delivery strategies and infrastructure to generate service revenues beyond commodity data plans. This ability to future proof mobile industry service strategy will be vital to the mobile ecosystem in fighting competition, and boosting margins, in the progression to an all-IP mobile future.

Radisys MRF