Solution: Memotec DCME Solutions
Client: Starcomms, Visafone

Cellular Networks deserve a dedicated voice compression solution when it comes to optimizing A and E trunk links. This is because, unlike telephony networks, cellular networks already operate with compressed voice on the **Radio Access Network [RAN]** – and carry a good proportion of data traffic (**Signaling, SMS, GPRS/EDGE user traffic**) in addition to voice traffic. Being a key service differentiator, **voice quality** is a primary concern for Mobile Operators. Adding a DCME system in an A or E link may result in severe voice quality degradation, if the solution is not engineered properly (for example, mobile to mobile communications needs voice to go through multiple compression/decompression cycles).

This deteriorates even further, if the A/E links is going over satellite, due to the added delay of satellite transmission. Therefore Mobile Operators will require specific features not found in traditional telephony DCME products.

With this customer pain in focus, **Proxynet Communications** in partnership with **Memotec** understands Mobile Operator's requirements in Sub-Saharan Africa and offers a dedicated Mobile DCME solution with a unique feature set that takes care of Mobile Operator's network specific issues and minimizes voice quality degradation. The result is enhanced quality of service, un-compromised flexibility and maximum cost efficiency.

Telephony Solutions

International Satellite Links is one of the most obvious applications where Memotec's advanced DCME solutions can offer telephony operators significant OPEX savings. Thanks to Memotec's superior codec implementation and echo-cancellation performance, Memotec can deliver telephony operators improved voice quality while maintaining a top level bandwidth compression ratio, a definite competitive advantage and the best cost/performance ratio on the market.

Choice of the Voice Codec

In Mobile networks, it is not all about the compression ratio performance. More important is the resulting quality (MOS score) of the DCME codec combined with the Mobile Radio Access Network (RAN) delays and codecs. Memotec's DCME toll-grade voice codecs –G.729 and G.723– deliver a better voice quality when used in tandem operation with GSM codec. Within a telephony context, similar codecs allow reaching a 20:1 reduction factor.

Transcoder Free Operation [TFO]

Memotec's proprietary voice trunking protocol delivers an end-to-end single voice compression/ decompression cycle, whether the voice is carried over multiple satellite hops or a combination of satellite and terrestrial transmission links. This applies in particular to local calls and Mobile to Mobile communications. Memotec's TFO feature guarantees that the voice quality will not be further deteriorated by going through un-necessary additional compression cycles. The potential distortion introduced into the speech signal from the conversion of the GSM Code into the PSTN PCM signal by the Transcoder Rate Adaptation Unit (TRAU) can also be eliminated.

Congestion Management

Memotec's unique congestion avoidance technology avoids [tail] packet drop. This technology monitors the available bandwidth on the WAN vs. the input traffic load and adapts –or smoothes- the input traffic load accordingly. The traffic adaptation is based on advanced PLC –Packet Loss Concealment-, a technology which was initially developed for being used by Media Gateways to compensate for packet loss in VoIP networks. Memotec's specific implementation prevents packet drops and minimizes voice quality degradation in case of congestion.

Key Benefits

- Best bandwidth efficiency: maximize OPEX savings
- 2G/2.5G/3G network consolidation: reduce OPEX/CAPEX
- Exceptional voice quality
- Improve network reliability
- One stop voice & data transport solution
- For Small, Medium and Large networks

Key Features

- Up to 16:1 bandwidth compression,
- Up to 8:1 SS7 traffic optimization
- High quality mobile friendly codec
- Voice and Data aggregation & compression
- Protocol independent backbone
- On-board traffic monitoring probe
- Versatile connection capability
- Unique Bandwidth Management feature