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It seems that good progress is being made in the specification of the codec for Wideband-AMR (W-AMR). However, it is not clear that sufficient thought has been applied to how it will be used.

This feature was intended for conversational applications in GSM and UMTS, mobile to mobile, to give better speech quality for the user than would normally be achieved to the fixed network. It is also possible that it may facilitate early applications in multimedia to be deployed e.g. download or streaming of music where the extended audio bandwidth of W-AMR is sufficient to support acceptable levels of quality within a restricted bearer, or in transcoding situations, where a full bandwidth audio codec is not supported on a terminal.

Looking at the Project Plan, it seems that nearly all the work is the responsibility of SA4, with a little also in RAN and GERAN. However, there are service requirements to be specified that appear not to be addressed. In particular, wideband speech is considered to be more susceptible to background acoustic noise and it is not unknown for mobile phones to be used in noisy environments such as airports! Thus it may be necessary for the user (or a noise detection device within the transcoder) to be able to select whether to use standard or wideband AMR mode. Indeed, if he is calling from a noisy to a quiet environment, it may be desirable to have wideband in one direction and standard in the other. While this problem may be resolved on some terminals by use of highly selective microphones, this solution cannot be expected on all terminals.

If user selection is required, especially if this includes the possibility for separate control in each direction, this would require the standardisation of extra signalling. It is therefore proposed that the detailed service requirements of this feature be examined in SA1 and then passed to SA2 and CN for implementation.

It is also possible that the coverage area of wideband AMR will be less than for standard, in which case in borderline areas, the network would have to change modes automatically. The advice of RAN and GERAN should be sought.

It is also not clear how a small A interface pool of wideband AMR codecs can be utilised efficiently (because A interface circuit selection is normally performed prior to any inter-MSC signalling). The need for UDI routes between MSCs also needs to be studied.

There may be many areas that need further study, eg the speech delay has been allowed to increase again! This will increase the QoS demands on any interconnecting IP network used by the R'5 IP multimedia system.

Conclusion: SA is invited to request SA1 to study the user and operator requirements for wideband AMR, in conjunction with SA4, and feed these into SA2, as part of a complete AMR package in Release 5.