Technical Specification Group Services and System Aspects **GTT(01)0016**
Global Text Telephony Workshop, Dusseldorf, Germany, 18-19 April 2001

Source: **Ericsson**

Title: **CTM Half Rate performance**

Document for: **Information**

Agenda Item: **4**

In last SA meeting, an issue was raised about the performance of CTM in GSM half rate codec transmission. Here is a message from the CTM lab after a test.

It is proposed that this shall be taken as a sufficient indication that CTM can be used successfully in Half-Rate environment.

From the CTM implementor:

I have run a successful test with CTM signals via the GSM Half-Rate speech channel. "Successful" means that we have no character errors, if we have a clean radio channel. I only have a simulation of the Half-Rate speech codec itself. Since I don't have the channel codec with the appropriate interfaces to the speech codec and to the channel simulator, I am currently not able to run simulations with disturbed radio channels with C/I values that correspond to the simulations that I have made for the other speech codecs (AMR, GSM-FR).

Therefore, the only statement that I can give is that the so-called intrinsic quality of the GSM Half-Rate speech codec is sufficient to provide an error-free CTM transmission.

For comparison purposes, I have also investigated the character error rate for a transmission of the original Baudot Code signal via the GSM Half-Rate speech codec and I have observed a character error rate of about 20%. Since this character error rate also refers to a clean radio channel, it's easy to imagine that this error rate will further increase if you consider a weak radio channel.

Conclusion: Although we didn't have the possibility to run tests with various channel conditions, we can say that CTM signals are robust enough for transmission via the GSM Half-Rate speech codec. I hope that these investigation results will satisfy the raised issue.