Joint TSG-S4#10 - SMG11#15 Meeting
February 28 – March 3 2000, Helsinki; Finland

S4/SMG11 Tdoc 00/0121

Source:	**Siemens**
Title:	**TFO for AMR: Painting the shortcut grey**
Document for:	**Discussion and Approval**
Agenda Item:	**13.2 (Tandem Free Operation)**

1. Scope and Summary

In SA4#9 meeting it was proposed to substantially simplify Tandem Free Operation (TFO) for GSM Adaptive Multi Rate code (AMR). Major prerequisite for this simplification was the support of all GSM AMR modes becoming mandatory for TFO with AMR.

During the discussion of the proposal the concern was raised that this prerequisite might be too strong for existing implementations in field, which should not be ruled out concerning GSM AMR-TFO.

Therefore it was proposed to allow a kind of short-cut in GSM AMR-TFO where during request and acknowledgement phase of TFO the both sides can explicitely notify their all-GSM-AMR-mode support and consequently can omit later-on complicated negotiations about the supported modes.

This document supports the idea of this short-cut extension. It additionally proposes a little bit more detailed short-cut information (so-to-say: use grey scales instead of black and white).

2. General Proposal

Block options for GSM AMR modes

It is proposed to also allow for the short-cut the notification of blocks of supported GSM AMR modes. The following blocks are proposed:

- All_GSM_AMR_FR
- All_GSM_AMR_HR
- Lower_half_of_GSM_AMR_FR_modes (modes 1-4)
- Lower_half_of_GSM_AMR_HR_modes (mode 1-3)

If none of these blocks is chosen, full complex TFO negotiation for supported modes could take place (procedures to be defined).

Two reasons lead to this block option proposal:

1. AMR Characterization Phase Test Results show that the loss of speech quality by tandeming between the higher modes is not very significant.
2. The existence of such block options would both ease existing implementations to support one sort of AMR-TFO and allow them to benefit from the short-cut advantages.

3. More Detailed Outline

To be provided, if principle is – hopefully ;-) – agreed.