

TSG-RAN Meeting #6
Nice, France, 13 – 15 December 1999

TSGRP#6(99)866

Agenda Item: 7.1

Source: Samsung Electronics Co., Ltd.

Title: Proposal to include gated DPCCH transmission in Release '99

Document for: Discussion and Decision

Current Status of gating.

- WG1: Gating was first presented in meeting #4, and adopted as a working assumption R1#7 meeting. The remaining issues relate to the use of the random gating pattern, which is already being discussed on the e-mail reflector.
- WG2: Gating was agreed in the R2#8 meeting. The remaining issues are closely related to the WG1 decision such as downlink only gating operation and optional/mandatory clarification, as well as operation in compressed mode.
- WG3: A text proposal was submitted to the last R3 meeting, but not discussed due to lack of time. However, Samsung believes that the impact is limited to the addition of few information elements only.
- WG4: The concept and advantages appear to have been understood as in the liaison statement sent from R4 in TSGR4#8(99)751. WG4 in the report from R4#8 appeared to agree that it would wait for the decision of WG1 on the gated DPCCH and would adopt it if WG1 decided to. Samsung believes the required changes to the R4 specifications can be agreed by March.

Discussion of Open Issues.

Samsung does not believe the open items identified in document 857 to be sufficient reason to postpone inclusion of gated DPCCH until r'2000. Operation in Asymmetric Case is to some extent related to whether support of the gating is Mandatory or Optional in the UE. It has already been agreed that support of gating is optional in the UTRAN in both directions, and optional for the UE in the uplink (status in the downlink still has to be agreed), so we can conclude that gating may in some cases be used in the downlink only, the use of gating only in the downlink would not appear to create any significant additional issues. The performance and power control aspects also appear to be related and Samsung believes it is possible to resolve these issues in WG4 by March of next year. The issue of whether regular as well as random gating patterns are used for gating of the DPCCH should not be too difficult to resolve, and the proposed random gating pattern has already been discussed. Samsung has studied the issue for the Iur and Iub, but the proposal was not covered at the last R3 meeting due to lack of time. Samsung also believes that the Compressed mode aspects can be resolved by March. Most of the work related to the support of gated DPCCH in the specifications of each working-group has been done, and the rest can be finalised for release '99 by next March.

Impact if not included in R99.

The advantages of gated DPCCH transmission during bearer suspended mode have been agreed as follows.

- uplink/downlink interference reduction

- capacity increase
- increased battery life of UE

Battery life of UE is considered a very important issue from the marketing viewpoint in some countries, because the customer will compare the battery life of 3G terminals with that of 2G terminals. In order to be comparable with 2G from initial deployment, gating as a method to increase battery life, should be included for Release 99. Indeed gated transmission of DCCH has been agreed in CDMA2000 for exactly that reason. Downlink capacity is also an issue of great significance for operators, and gated operation can help to increase that.

Conclusion.

Samsung believes that the proposed gated DPCCH transmission scheme is mature enough to be finalised by March 2000 and the advantages appear to be clearly understood. **Samsung therefore proposes that the gated DPCCH transmission should be included for Release 99.**