Agenda Item: 8.5

Source: Ericsson

Title: Quality Indicators in Dedicated Channel Frame Protocol

Document for:

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1.   INTRODUCTION

This contribution suggests additional information to be included in the DCH data frame.

2.   DESCRIPTION

Reference [1] states that the soft combining is based on a quality indicator in the DCH data frame showing good or bad frame.
We propose that following information elements replace the existing quality indicator to be used for the soft combining selection:

1. An out of synchronisation indicator showing if the physical channel has been unsynchronised during the frame.
2. A checksum indicator to indicate successful/unsuccessful checksum calculation on the radio interface transport block performed by NodeB.
3. A quality estimate for better soft combining, and for the outer loop power control to calculate a new target value.

3.   CONCLUSION

We propose that the following text replace the text in chapter 11.2.2.1.3 in reference [1]:
Every Transmission Time Period (typically one radio frame, i.e. 10ms), for each Transport channel, the Node B sends to the SRNC the following information:
- a Transport Bloc Set (user data) received from the radio interface
- the Transport Format Indicator (TFI) associated to the Transport Bloc Set
- A~~ ~~Quality indicat~~or~~ions:
    ~~Bad / Good frame~~
    Out of synchronisation indicator
    CRC indicator
    Quality estimate
Other Quality indications are FFS.

~~When the frame is incorrectly received, it is not sent on the Iur interface.~~

Information element	Description
message type	Uplink DCH Transport channel frame
Transport Format Indicator	The TFI identifies the format of the transport channel as received from the radio interface
Transport Bloc Set	This contains the data received from the radio interface
Out of Synchronisation Indicator	Shows if the physical channel has been unsynchronised during the frame
CRC Indicator	Shows if the transport block checksum is correct
Quality ~~indicator~~ Estimate	This may update the target outer loop power control

4. REFERENCE:

[1]   UMTS ZZ.13 V0.1.0, Description of Iub Interface, Source ARC Expert Group.