

TSG-RAN Working Group1 meeting #9  
Dresden, Germany, Nov 30-Dec 3, 1999

***TSGR1#9(99)j69***

**Agenda Item:**

**Source:** Panasonic

**Title:** TS 25.214 CR 032Description of Variable Rate Packet  
Transmission

**Document for:** Approval

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**Summary:**

The concept of Variable Rate Packet Transmission was presented and approved by WG1 and WG2 in the past. Since this is mainly a higher layer procedure it has not yet been described in WG1 specification.

For details please refer to TSGR1#3(99)153 and TR 25.922 Radio Resource Management Strategies section 10.1 Variable Rate Packet Transmission. Additional information incl. system level simulation results can also be found in the annex of TR 25.922.

In the attached CR you can find the text describing the physical layer procedure to support Variable Rate Packet Transmission.



Finally, the UE begins transmitting the data on the DPDCH after the period. The procedure for starting the uplink DPCCCH transmission will be similar to Section 7.3.4.1

### 7.1.3 Resumption of DCH for Downlink or Uplink Packet Data Transfer

The synchronization of the DCH technique may be used to resume a DCH/DCH+DSCH connection that has been dropped for a short period.. This is applicable for packet data transfer using DSCH or uplink DPDCH or bi-directional data transfer using DSCH/Uplink DPDCH. Figure 5 shows the case where the DCH has been discontinued based on an inactivity timer  $T_E$ . The UTRAN, upon detecting data in the queue, may resume the DCH operation provided the period  $T_E$  has not elapsed. Typically  $T_E$  is set to 1000msec.

## 7.2 Variable Rate Packet Transmission

This procedure supports the data rate control by higher layer according to the channel conditions. Variable rate packet transmission may be invoked for up- and downlink packet data transfer on the DCH and CPCH.

### 7.2.1 Downlink packet transmission

An upper and lower power threshold is set for the Code Tx Power measurement by the network using higher layer signalling (RRC).

During a call the physical layer averages the transmission power for that UE over one or several frames. The physical layer verifies each frame if the Code Tx Power is within the set range. The physical layer indicates to the higher layer (MAC) if the Code Tx Power is higher than the upper Code Tx Power threshold or is below the lower Code Tx Power threshold.

### 7.2.2 Uplink packet transmission

An upper and lower power threshold is set for the UE Tx power measurement by higher layer signalling (RRC). During a call the physical layer averages the transmission power of the UE over one or several frames. The physical layer verifies each frame if the UE Tx Power is within the set range. The physical layer indicates to the higher layer (MAC) if the UE Tx Power is higher than the upper UE Tx Power threshold or is below the lower UE Tx Power threshold.