Agenda Item: **4.2 AH14**
Source: **Golden Bridge Technology**
Title: **Proposed CPCH-related insertions to 25.212**
Document for: **Discussion and Approval**

4.2.3 Channel coding

Code blocks are delivered to the channel coding block. They are denoted by $o_{ir1}, o_{ir2}, o_{ir3}, \ldots, o_{irK_i}$, where i is the TrCH number, r is the code block number, and K_i is the number of bits in each code block. The number of code blocks on TrCH i is denoted by C_i. After encoding the bits are denoted by $x_{ir1}, x_{ir2}, x_{ir3}, \ldots, x_{irX_i}$. The encoded blocks are serially multiplexed so that the block with lowest index r is output first from the channel coding block. The bits output are denoted by $c_{i1}, c_{i2}, c_{i3}, \ldots, c_{iE_i}$, where i is the TrCH number and $E_i = C_i X_i$. The output bits are defined by the following relations:

$$c_{ik} = x_{i1k} \qquad\qquad k = 1, 2, \ldots, X_i$$

$$c_{ik} = x_{i,2,(k-X_i)} \qquad\qquad k = X_i + 1, X_i + 2, \ldots, 2X_i$$

$$c_{ik} = x_{i,3,(k-2X_i)} \qquad\qquad k = 2X_i + 1, 2X_i + 2, \ldots, 3X_i$$

$$\ldots$$

$$c_{ik} = x_{i,C_i,(k-(C_i-1)X_i)} \qquad\qquad k = (C_i - 1)X_i + 1, (C_i - 1)X_i + 2, \ldots, C_i X_i$$

The relation between o_{irk} and x_{irk} and between K_i and X_i is dependent on the channel coding scheme. The following channel coding schemes can be applied to TrCHs:

- Convolutional coding
- Turbo coding
- No channel coding

Table 1: Error Correction Coding Parameters

Transport channel type	Coding scheme	Coding rate
BCH		
PCH	Convolutional code	1/2
FACH		
RACH		
CPCH		1/3, 1/2 or no coding
DCH		
CPCH	Turbo Code	1/3 or no coding
DCH		

<Editor's note: Removal of 1/2 Turbo code rate is a working assumption.>

4.2.13.3   Common Packet Channel (CPCH)

- The maximum value of the number of TrCHs I in a CCTrCH, the maximum value of the number of transport blocks M_i on each transport channel, and the maximum value of the number of DPDCHs P are given from the UE capability class.
- ~~Note 1: The need to multiplex several CPCH transport channels is FFS (this note is taken from TS 25.302).~~
- Note 12: Only the data part of the CPCH can be mapped on multiple physical channels (this note is taken from TS 25.302).