Agenda Item: **9.0.8**

Source: **NTT DoCoMo**

Title: **Requirement for Voice-Band Data and FAX Services Standardisation**

Document for: **Discussion**

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1. Introduction
This document explains the requirement to support Voice-Band Data and FAX services in UMTS standard.

2. Requirement
Voice-Band Data and FAX services in pre UMTS system (PDC) are offered and it has spread widely in Japan. The number of the users using Voice-Band Data and FAX services are increasing continuously. From the operator's point of view, the market of this area is very attractive and it will be the same in UMTS.
Voice-Band Data and FAX services are supported as real time end-to-end communication by the use of Terminal Adaptation Function (TAF) and Inter-Working Function (IWF) by using non-transparent bearer service. By using such functions, there is an advantage that can aim at efficient use of a network resource and it helps to reduce cost. It means that Voice-Band Data and FAX services are expected to promote multimedia service which is one of the characteristic services in UMTS.
Moreover, supporting pre UMTS services is the basic concept of UMTS standard as described in the document UMTS 22.01.
Therefore, Voice-Band Data and FAX services should be supported in UMTS.

3. Protocols
 (1) Voice-Band Data service for UMTS should support protocols that are specified in the following recommendations or specifications in table1:

Table 1 Recommendations or Specifications for Voice-Band Data Services

Protocol support	Applicable recommendations/specifications
Data transmission	V90, X2, V.34+, V.34, VFC,V.33, V.32bis, V.32, V.23, V.22bis, V.22, V.21, V.8, Bell 212A, Bell 103, V110, PIAFS
Data compression	MNP5, V42bis
Error correction	MNP2-4, V.42LAPM, ETC

(2) Group 3 Facsimile service for UMTS should have capability to support ITU-T T.30 protocol.

4. Conclusion
As mentioned above, we require that Voice-Band Data and FAX services should be standardised in UMTS as optional functions. Protocols that were described in Clause 3 should be taken into consideration to be supported in the network. It needs to be described in the document UMTS22.00.