Agenda Item: **6.9.2.2**

Source: **NTT DoCoMo**

Title: **Proposed investigations for LS answer on "Identification of service capabilities" in S1-99251**

Document for: **Discussion and decision**

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1. Introduction

TSG-T2 asked TSG-S1 to identify Release 99 service capabilities and the correspondence between services and service capabilities in Tdoc S1-99251. We propose that S1 further investigates the various service capabilities which respect to their individual attributes as per TS 22.105.

Although 3GPP's principle is to standardize service capabilities and not the services themselves, we consider that an investigation of the correspondence between services and bearer services as well as consideration for bearer services with respect to QoS, is necessary, particularly to ensure compatibility with roaming and to assess any QoS impact on the system complexity.

2. Proposal

TS 22.100 defines service capabilities as "bearer services defined by parameters (e.g. QoS attributes) and mechanisms needed to realize services". We propose to investigate the following items related to identification of service capabilities.

(1) List the types of bearer services that will be needed in 3GPP as in the table below.

Type of bearers			Characteristics	Traffic Type
Circuit switched data	**Speech**		Real Time, Constant Delay, Maximum BER depends on CODEC	Real Time Conversation
	Transparent(Unrestricted) data		Real Time, Constant Delay, High Reliability, Transparent	Real Time Conversation
	Non- transparent data	**Fax/Modem**	Real Time, High Reliability(zero error with flow control)	Interactive?
	Video		Real Time, Constant Delay, Maximum BER depends on CODEC	Real Time Conversation
Packet switched data			Variety	All type
SMS	**SMS-PP**		Non Real Time, High Reliability	Background
	SMS-CB		Non Real Time, Uni-directional, Point-to-Multipoint	Background

(2) Define the values for the attributes as in 22.105, that are necessary for each bearer, in particular bit rates (fixed bit rate for circuit switched data and peak, minimum, and mean bit rates for packet switched data) and quality attributes values correspondence to each bit rates.
   [Note] Among these values to be defined, T2 requires especially to prioritize the bit rates.

(3) Identify the correspondence between services and service capabilities. It is proposed that the correspondence of some typical services and standardized service capabilities would be identified.

The following is a proposed template with an initial attempt to highlight the correspondence between services and service capabilities.

Type of bearer services			(e.g.)Services Service capability		Teleservice								Unrestricted data
					Spe ech	Fax	Modem	Video	Packet		SMS		
									IP	X.25	SMS-PP	SMS-CB	
			QoS Attributes										
			Fix/Max bit rate	Others									
Circuit switched data	Speech		8/16K	[TBD]	ü								
	Transparent (Unrestricted) data		16K	[TBD]									ü
			32K	[TBD]									ü
			64K	[TBD]									ü
	Non-transparent data	Fax/ Modem	16K	[TBD]		ü	ü						
			32K	[TBD]		ü	ü						
			64K	[TBD]		ü	ü						
	Video		32K	[TBD]				ü					
			64K	[TBD]				ü					
Packet switched data (*1)			8K	[TBD]					ü	ü			
			16K	[TBD]					ü	ü			
			32K	[TBD]					ü	ü			
			64K	[TBD]					ü	ü			
			128K	[TBD]					ü				
			256K	[TBD]					ü				
			386K	[TBD]					ü				
			2048K	[TBD]					ü				
SMS	SMS-PP		---	[TBD]							ü		
	SMS-CB		---	[TBD]								ü	

(∗1) The free combination of the bit rates for uplink and downlink will be available.
There may be other bit rates.