3GPP TSG_CN#6 **NP-99423**
Meeting #6, Nice, France
13th - 15th December 1999

Source: N3

Title: All Outgoing LSs from TSG_N3 since TSG_N#5 Plenary

Agenda item: 5.3.3

Document for: Information

Content:

This document lists all outgoing liaison sent after TSG_N3 #6 and #7 Meetings. The electronic copies of these documents are contained in this zip file.

DOC	Subject	To	CC	Attachments
N3-99356	Open Issue on eventual deletion of packet services	TSG_S1		
N3-99359	Request for the provision of 32K service for Multimedia	TSG_R1		N3-99313
N3-99373	Bearer Modification without pre-notification	TSG_S1		
N3-99374	Service/Baseline Implementation Capabilities	TSG_N1		
N3-99332	Rejection on GPRS ATD modification	TSG_T2 SWG2		
N3-99333	Definition of active Communication for Packet Domain	T2_SWG5	RAN 2	
N3-99334	Iu UP Protocol Framing of NAS User Data	TSG_N1		N3-99289
N3-99335	3G Services	TSG_S1		
N3-99491	QoS Mapping	TSG_S2	N1	
N3-99474	UMTS and RAB parameter value ranges and granularity	TSG_S2	R2, R3	
N3-99514	HSCSD specifications	TSG_S1		
N3-99460	Definition of Active Communication for Packet Domain	TSG R2, TSG T2 WG5		

N3-99356

TSG CN WG3 #6
18th – 22nd October, 1999
Sophia Antipolis, France

From: TSG_CN WG3 / SMG3 WPD

To: SMG1, TSG_SA_WG1

Subject: Liaison statement on Release'99 clean-up

N3 would like to inform S1 that it has made progress with the work related to the removal of:

- single bearer service (BS 21-26 and 31-34)
- dedicated packet and PAD services
- alternate data/speech services.

09.04 and 09.05 have been deleted as a result of this service clean-up. Almost all necessary CRs are expected to be approved at the CN meeting in December 1999.

Although changes to 23.070 and 29.006, which are related to circuit switched packet services, are necessary, no CRs can be expected to these specifications. These specifications have been dormant for a long while, there are no rapporteurs for them, and there is no current interest in maintaining them. Nor the R99 service clean-up nor the introduction of UMTS will be reflected in these TSs.

The reason for this is that most of the companies are no more intereseted in such a service. The CS basic packet services provide an interworking towards PSPDNs that can be provided by other services, such as basic PAD access or through packet switched services (GPRS).

N3 askes S1 to consider the removal of the CS basic packet service in addition to the already removed dedicated packet service This removal of the basic packet service would imply that TSs 23.070 and 29.006 can be deleted from R99. It would also simplify the maintenance of other CS data related specifications.

N3-99359

TSG CN WG3 #6

18th – 22nd October, 1999
Sophia Antipolis, France

From: TSG_CN WG3

To: TSG_RAN WG1

Subject: Liaison statement on 32k Multimedia Data rate

N3 has decided 32k data rate for Multimedia call as one of a Transparent data type for R99 service, which based on attached N3-99313. We ask R1 the study (ex. channel coding) of 32kbps radio bearer to meets the quality for Multimedia Telephony. In order to offer the service in R99, N3 ask to R1 to inform current study status regarding to the topic in the next meeting.

Attached

N3-99313

TSG CN WG3 #6
18th – 22nd October, 1999
Sophia Aitipolis, France

Agenda Item	**:**	**Other Work Items**
Source	**:**	**NTT DoCoMo**
Title	**:**	**PIFAS and 32kbit/s Video Telephony call setup procedure**
Document for	**:**	**Discussion and Approval**
Related TS	**:**	**29.007, 27.001, 24.008**

1. Introduction

The supporting of PIAFS over 32kbit/s and 64kbit/s for UMTS has been agreed in previous meeting. But, the supporting of video telephony (3G-H.324/M) over 32kbit/s remains for further study. This document describes PIAFS over 32kbit/s and 64kbit/s call-setup procedure and video telephony over 32kbit/ call-setup procedures.

2. Call setup procedure between PHS and ISDN

2.1 PHS originating ISDN terminating call

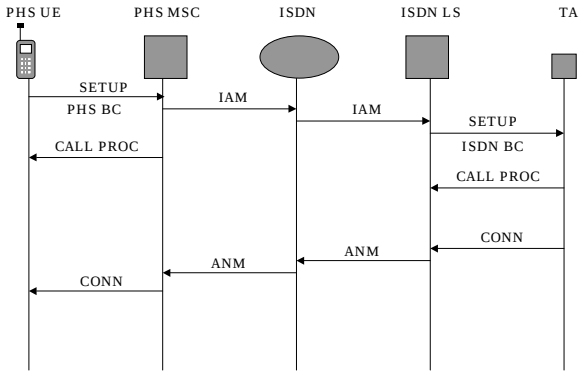

Figure 2.1: Message flow at mobile originating

(1) PHS UE sends SETUP including PHS BC mentioned in table 2.1 or table 2.2.
(2) PHS MSC performs the mapping of PHS BC to ISDN BC mentioned in table 2.3
(3) PHS MSC sends IAM toward ISDN LS
(4) ISDN LS sends SETUP including ISDN BC mentioned in table 2.4 or table 2.5.
(5) TA assumes that incoming call is PIAFS and accepts the call as PIAFS.

2.2 ISDN originating ISDN terminating call

(1) TA sends SETUP including ISDN BC mentioned in table 2.4 or table 2.5
(2) ISDN LS sends IAM toward PHS MSC
(3) PHS performs the mapping of ISDN BC to PHS BC mentioned in table 2.3
(4) PHS MSC sends SETUP including PHS BC mentioned in table 2.1 or table 2.2.
(5) PHS assumes that incoming call is PIAFS and accepts the call as PIAFS.

Table 2.1: 32kbit/s PIAFS description in PHS

PHS BC parameter field	setting
Information Transfer Capability	UDI
Information Transfer Rate	32kbit/s

Table 2.2: 64kbit/s PIAFS description in PHS

PHS BC parameter field	setting
Information Transfer Capability	UDI

Information Transfer Rate	64kbit/s

Table 2.3: The mapping between PHS BC and ISDN BC

PHS BC	ISDN BC
Information Transfer Capability UDI	Information Transfer Capability UDI
Information Transfer Rate 32kbit/s 64kbit/s	Information Transfer Rate 64kbit/s
	User Information Layer 1 Protocol(note 1) V.110, I.460 & X.30
	Synchronous/Asynchronous(note 1) Synchronous
	User Rate 32kbit/s(note1)

Note 1: This information is contained when PIAFS over 32kbit/s call is initiated.

Table 2.4: 32kbit/s PIAFS description in ISDN

ISDN parameter field	setting
Information Transfer Capability	UDI
Information Transfer Rate	64kbit/s
User Information Layer1 Protocol	V.110, I.460 & X.30
User Rate	32kbit/s

Table 2.5: 64kbit/s PIAFS description in ISDN

ISDN parameter field	setting
Information Transfer Capability	UDI
Information Transfer Rate	64kbit/s

3. Call setup procedure in UMTS

<Assumption>

The following code points are added to UMTS BC IE(TS24.008) and "V.110" in Rate Adaptation is changed to "V.110 & I.460"

Table 3.1: Additional new code point and the change point

BC parameter field added new code point	Additional new code point or the change point
Other Rate Adaptation	**PIAFS**
Rate Adaptation	**V.110 & I.460**
Fixed Network User Rate	**32kbit/s**

3.1 mobile originating

(1) UMTS UE sends SETUP including UMTS BC mentioned in table 3.2 or table 3.3.
(2) UMTS MSC performs the mapping of UMTS BC to ISDN BC mentioned in table 3.6
(3) UMTS MSC sends IAM.

3.2 mobile terminating

<Mutli numbering scheme>

(1) UMTS MSC receives UMTS BC mentioned in table 3.2 or 3.3 by SEND_ROUTING_INFO message.
(2) UMTS MSC sends SETUP including UMTS BC received.

<Single Numbering scheme>

(1) UMTS MSC receives IAM including ISDN BC mentioned in table 2.4 and table 2.5.
(2) UMTS MSC performs the mapping mentioned in table 3.7.
(3) UMTS MSC send a SETUP including UMTS BC mentioned in 3.4 or 3.5.
(4) UMTS UE assumes that the incoming call is PIAFS and sends CALL CONFIRMED including UMTS BC mentioned in table 3.2 or 3.3.

Table 3.2: 32kbit/s PIAFS description in PHS

BC parameter field	setting
Information Transfer Capability	UDI
Rate Adaptation	PIFAS
Synchronous/Asynchronous	Asynchronous
Connection Element	Non-transparent
Fixed Network User Rate	32kbit/s
WAIUR	14.4kbit/s or 28.8kbit/s

Other field settings remains for further study

Table 3.3: 64kbit/s PIAFS description in PHS

BC parameter field	setting
Information Transfer Capability	UDI
Rate Adaptation	PIFAS
Synchronous/Asynchronous	Asynchronous
Connection Element	Non-transparent
Fixed Network User Rate	64kbit/s
WAIUR	14.4kbit/s, 28.8kbit/s or 57.6kbit/s

Table 3.4: 32kbit/s service unidentified description in UMTS

BC parameter field	setting
Information Transfer Capability	UDI
Rate Adaptation	V.110 & I.460
Synchronous/Asynchronous	Synchronous
Connection Element	Transparent
Fixed Network User Rate	32kbit/s
WAIUR	-

Table 3.5: 64kbit/s service unidentified description in UMTS

BC parameter field	setting
Information Transfer Capability	UDI
Rate Adaptation	-
Synchronous/Asynchronous	Synchronous
Connection Element	Transparent
Fixed Network User Rate	64kbit/s
WAIUR	-

Table 3.6: The mapping of PIFAS

UMTS BC	ISDN BC
Information Transfer Capability UDI	Information Transfer Capability UDI
No compatible field	Information Transfer Rate 64kbit/s
Rate Adaptation PIAFS	User Information Layer 1 Protocol(note1) V.110, I.460 & X.30
Synchronous/Asynchronous Asynchronous	Synchronous/Asynchronous(note1) Synchronous
Connection Element Non-transparent	No comparable field
Fixed Network User Rate 32kbit/s 64kbit/s	User Rate(note 1) 32kbit/s

Note 1: This information is contained when PIAFS over 32kbit/s call is initiated.

Table 3.7: The mapping of unidentified service

UMTS BC	ISDN BC
Information Transfer Capability UDI	Information Transfer Capability UDI
No compatible field	Information Transfer Rate 64kbit/s
Rate Adaptation V.110 & I.460	User Information Layer 1 Protocol(note1) V.110, I.460 & X.30
Synchronous/Asynchronous Synchronous	Synchronous/Asynchronous Synchronous
Connection Element Transparent	No comparable field
Fixed Network User Rate 32kbit/s 64kbit/s	User Rate(note 1) 32kbit/s

4. 32kbit/s Video Telephony call setup procedure

32kbit/s video telephony call setup procedure is almost the same as 32kbit/s PIAFS call setup procedure. The main different point is to be used H.223 & H.245 indication instead of PIFAS indication.

<Assumption>

The following code points are added to UMTS BC IE(TS24.008) and "V.110" in Rate Adaption is changed to "V.110 & I.460"

Table 4.1: Additional new code point and the change point

BC parameter field added new code point	Additional new code point or the change point
Other Rate Adaptation	**H.223 & H.245**
Fixed Network User Rate	**32kbit/s**

4.1 mobile originating

(1) UMTS UE sends SETUP including UMTS BC mentioned in table 4.2.
(2) UMTS MSC performs the mapping of UMTS BC to ISDN BC mentioned in table 4.4
(3) UMTS MSC sends IAM.

4.2 Mobile terminating

<Mutli numbering scheme>

(1) UMTS MSC receives UMTS BC mentioned in table 4.2 by SEND_ROUTING_INFO message.
(2) UMTS MSC sends SETUP including UMTS BC received.

<Single Numbering scheme>

(3) UMTS MSC receives IAM including ISDN BC mentioned in table 4.6.
(4) UMTS MSC performs the mapping mentioned in table 4.5.
(5) UMTS MSC send a SETUP including UMTS BC mentioned in 4.3.
(6) UMTS UE assumes that the incoming call is PIAFS and sends CALL CONFIRMED including UMTS BC mentioned in table 4.2.

Table 4.2: 32kbit/s 3G-H.324/M description in UMTS

BC parameter field	setting
Information Transfer Capability	UDI
Rate Adaptation	H.223 & H.245
Synchronous/Asynchronous	synchronous
Connection Element	transparent
Fixed Network User Rate	32kbit/s

Other field settings remains for further study

Table 4.3: 32kbit/s service unidentified description in UMTS

BC parameter field	setting
Information Transfer Capability	UDI
Rate Adaptation	V.110 & I.460
Synchronous/Asynchronous	Synchronous
Connection Element	Transparent
Fixed Network User Rate	32kbit/s

Table 4.4: The mapping of 3G-H.324/M

UMTS BC	ISDN BC
Information Transfer Capability UDI	Information Transfer Capability UDI
No compatible field	Information Transfer Rate 64kbit/s
Rate Adaptation H.223 & H.245	User Information Layer 1 Protocol(note1) V.110, I.460 & X.30
Synchronous/Asynchronous synchronous	Synchronous/Asynchronous(note1) Synchronous
Connection Element transparent	No comparable field
Fixed Network User Rate 32kbit/s	User Rate(note 1) 32kbit/s

Note 1: This information is contained when PIAFS over 32kbit/s call is initiated.

Table 4.5: The mapping of unidentified service

UMTS BC	ISDN BC
Information Transfer Capability UDI	Information Transfer Capability UDI
No compatible field	Information Transfer Rate 64kbit/s
Rate Adaptation V.110 & I.460	User Information Layer 1 Protocol(note1) V.110, I.460 & X.30
Synchronous/Asynchronous Synchronous	Synchronous/Asynchronous Synchronous
Connection Element Transparent	No comparable field
Fixed Network User Rate 32kbit/s	User Rate(note 1) 32kbit/s

5. Conclusion

The following changes are needed to support 32kbit/s PIFAS, 64kbit/s PIAFS and 32kbit/s video telephony.

(1)TS24.008 BC

The following code points are added to each field and “V.110” in Rate Adaptation is changed to “V.110 & I.460”

Table 3.1: Additional new code point and the change point

BC parameter field	Additional new code point or the change point
Other Rate Adaptation	**PIAFS**
Rate Adaptation	**V.110 & I.460**
Fixed Network User Rate	**32kbit/s**

(2)TS27.001

It should be possible that UE allows for re-negotiation of the following parameters.

- Connection Element
- Rate Adaptation(Other rate adaptation)
- Synchronous/Asynchronous

(3) TS29.007

Table 3.6 and Table 4.4 should be added to Table 7A in TS29.007.
Table 3.7 and Table 4.5 should be added to Table 7B in TS29.007.

3GPP TSG-CN3 / ETSI SMG3 WPD
Meeting #6, Sophia Antipolis, France,
18-22 October 1999

N3-99373

LIAISON STATEMENT

ON BEARER MODIFICATION WITHOUT PRE-NOTIFICATION

From: **TSG_CN WG3**

To: **TSG_SA WG1**

CN3 has received S1's proposed Liaison Statement on Bearer Modification without pre-notification (N3-99322 / S1#5 (99) 846) that proposes a joint S1/CN3 session during the next official CN3 meeting in order to clarify the requirements on Bearer Modification without pre-notification. This session took place on October the 21st. The S1 participants requested a Liaison Statement to inform S1 on the results of this joint session. CN3 take this as a possibility to ask for further clarification on dedicated issues.

A general concept of bearer modification was required where it should be possible to modify arbitrary bearers. CN3 raised up concerns because such a function does not exists in the ISDN and an appropriate ISDN bearer has to be chosen at the beginning of the call that is able to fulfil the requirements of all possible UMTS bearers during the call. A confirmation could only be given when the candidates are known.

The received proposed Liaison Statements clarified that a bearer modification without prenotification should be possible for:

- Speech and Fax
- Speech and Modem
- Speech and Multimedia.

Based on the given requirements CN3 has the following remarks to the services required by S1:

Speech to/from Fax:

Based on the assumption that an ISDN speech bearer (for lower user rates) as well as an ISDN audio bearer can be used to transfer speech and fax signals, it seems to be feasible to standardise bearer modifications without prenotifications. This specification can use the already existing service Alternate Speech/Fax (TS 61).

However, because of open issues related to the Fax specification in UMTS it is unlikely to get the work finished in R99.

Speech to/from Modem:

Based on the assumption that an ISDN speech bearer (for lower user rates) as well as an ISDN audio bearer can be used to transfer speech and modem signals, it seems to be feasible to standardise bearer modifications without prenotifications. This specification can use the Alternate Speech/Data bearer services (BS 61 / BS 81).

Based on the GSM experience where due to lack of applications BS61 and BS81 were deleted in the process of R99 service clean up. CN3 has issued Change Request against most of their specifications to realise the service clean up. These Change Requests are waiting for approval by CN plenary. CN3 wonders why the functionalities of these services are introduced again in UMTS and therefore would like to see real applications. We wonder if the requirements could be fulfilled with services such as GPRS, SMS, UUS and LCS in combination with a speech service. Especially, because the use of speech plus one of these services could be hidden on application level.

CN3 recognised a problem related to the modem synchronisation, i.e. how to determine which modem is the calling and which the called, and a related modem handshaking problem causing failure of the data phase in some cases; the investigation of possible technical solutions for this might delay the work.

However, it seems to be feasible to standardise bearer modifications without pre-notifications, but it is unlikely to get the work finished in R99.

Speech to/from a modem and fax service:

Concerns raised up by CN3 were not related to the number of bearers but related to an appropriate bearer that can be used towards the ISDN. The discussion mentioned above shows that for speech, fax and modem the same ISDN bearer can be used. So, it is feasible to define bearer modification between speech, modem and fax. It should be considered whether it is worth to introduce such a service/functionality.

However, we want to emphasise that an UDI interworking can not be included in such a service/functionality.

Speech to/from Multimedia:

CN3 is currently in the process of contributing to the specification of the Multimedia service. Even without new requirements this is an extremely challenging task. The schedule for R99 is already very tight. It is therefore very unlikely to standardise bearer modifications without pre-notifications for Multimedia in R99.

CN3 would like to draw S1's attention on the fact that a Multimedia by definitions is able to support the speech service, in this case the H.324M codec instead of the AMR is used. It should be considered whether speech can be considered as part of the Multimedia service or as a separate service requiring a different bearer. The first possibility would simplify the technical solution but is less efficient from the radio bearers point of view.

CN3 would like to take this opportunity to ask for clarification to the following items:

- Regarding the change of bearer during an ongoing call, it is the understanding of CN3 that the destination is not supposed to change upon a swap from speech to data or vice versa. In this understanding correct?

- Is it still reasonable to have an Alternate Speech and Fax Teleservice (TS61) if a bearer modification without pre-notification is specified?

- There is a timing requirement in the modem handshaking which the application/user may have to take into account when swapping from speech to data. It is important for CN3 to know, which applications require the speech-to-data feature, in order to identify and try to circumvent possible problems. Can S1 identify further applications (in addition to the speech-to-emergency-centre case)?

- Could the requirement of changing the bearer be satisfied by a multicall or two successive calls controlled on the application level, i.e. by terminating the ongoing call and setting up a new call with the required new bearer?

- Shall the bearer modification be a new general service where the user has to be subscribed to or can anyone with any service subscription try to make a bearer modification?

3GPP TSG-CN3 / ETSI SMG3 WPD N3-99374

Meeting #6, Sophia Antipolis, France,
18-22 October 1999

To:	**TSG-CN WG1, TSG-T WG2**
Cc:	**TSG-SA WG1, TSG-CN WG2, CN WG2 ss adhoc,**
From:	**TSG-CN WG3**
Title:	**Response to LS on Service/Baseline Implementation Capabilities**

TSG-CN WG3 have studied the LS from TSG CN WG1 (N1-99B33) on Service/Baseline Implementation Capabilities and would like to offer the following comments related to table 2. Note: Table 2 (Terminal Service Implementation Capability for NAS) is attached to this LS, for reference:

- Within the UMTS Session Management sections, the “Secondary PDP Context Activation” and “Network Requested PDP context activation” procedures (as defined in 23.060) appear to have been omitted.
- N3 were also wondering if it is worth mentioning that the “PDP context modification” and “PDP context deactivation” procedures could also be initiated from the SGSN or GGSN as well as the Terminal?

Table 2: Terminal Service Implementation Capability (1/2) for NAS M: mandatory, O: Optional, C: Conditional

		Service Implementation Capabilities		Ref. Doc	Section(s)	Tele-service for Terminals					Comments
						Speech (w/ E. call)	FAX	SMS-PP	SMS-CB		
	Layer 3 specification	UMTS Call Control (Optional)	Mobile originating call Establishment	24.008	5.2.1	M	M	-	-		
			Mobile terminating call Establishment	Ditto	5.2.2	M	M	-	-		
			Call clearing	Ditto	5.4.2	M	M	-	-		
					5.4.3	M	M	-	-		
					5.4.4	M	M	-	-		
			In-band tones and announcements	Ditto	5.5.1	M	M	-	-		
			Status procedure	Ditto	5.5.3	M	M	-	-		
			DTMF protocol control procedure	Ditto	5.5.7	M	-	-	-		
		UMTS Session Management (Optional)	PDP context activation	Ditto	6.1.3.1	-	-	-	-		
			Secondary PDP Context Activation	Ditto	?	-	-	-	-		
			MS Initiated PDP context modification procedure	Ditto	6.1.3.2	-	-	-	-		
			SGSN Initiated PDP context modification procedure	Ditto	?	-	-	-	-		
			GGSN Initiated PDP context modification procedure	Ditto	?	-	-	-	-		
			MS Initiated PDP context deactivation procedure	Ditto	6.1.3.3	-	-	-	-		
			SGSN Initiated PDP context deactivation procedure	Ditto	?	-	-	-	-		
			GGSN Initiated PDP context deactivation procedure	Ditto	?	-	-	-	-		
			AA PDP context activation	Ditto	6.1.3.4	-	-	-	-		
			AA PDP context deactivation	Ditto	6.1.3.5	-	-	-	-		
			Receiving a SM STATUS message by a SM entity	Ditto	6.1.3.6	-	-	-	-		
		SMS	CM-procedure	24.011	5	-	-	M	-		

			SM-RL-procedure	Ditto	6	-	-	M	-		
			Message format on BTS-MS I/F	04.12	3	-	-	-	M		04.12 For further study
		Supplement. (Opt)	Generic Procedure for the control of SS	24.010	2	See comments(CFU+CC)	See comments(CC)	-	-		If speech call supported then CFU is Mandatory. SS&CC are Related.
			SS Support procedure	Ditto	3	See comments (CFU+CC)	See comments(CC)	-	-		

Table 2: Terminal Service Implementation Capability (2/2)

		Service Implementation Capabilities		Ref. Doc	Section(s)	Bearer service for Terminals		Supplementary service for Terminals	Comments
						Circuit SW data	Packet SW data	Call Forward, Advise of Change, USSD, Explicit Call transfer, and others	
	Layer 3 specification	UMTS Call Control (Optional)	Mobile originating call Establishment	24.008	5.2.1	M	-	-	
			Mobile terminating call Establishment	Ditto	5.2.2	M	-	-	
			Call clearing	Ditto	5.4.2	M	-	-	
					5.4.3	M	-	-	
					5.4.4	M	-	-	
			In-band tones and announcements	Ditto	5.5.1	M	-	-	
			Status procedure	Ditto	5.5.3	M	-	-	
			DTMF protocol control procedure	Ditto	5.5.7	-	-	-	
		UMTS Session Management (Optional)	PDP context activation	Ditto	6.1.3.1	-	M	-	
			Secondary PDP Context Activation	Ditto	?	-	?	-	
			MS Initiated PDP context modification procedure	Ditto	6.1.3.2	-	?~~M~~	-	
			SGSN Initiated PDP context modification procedure	Ditto	?	-	?	-	
			GGSN Initiated PDP context modification procedure	Ditto	?	-	?	-	
			MS Initiated PDP context deactivation procedure	Ditto	6.1.3.3	-	?~~M~~	-	
			SGSN Initiated PDP context deactivation procedure	Ditto	?	-	?	-	
			GGSN Initiated PDP context deactivation procedure	Ditto	?	-	?	-	
			AA PDP context activation	Ditto	6.1.3.4	-	O	-	
			AA PDP context deactivation	Ditto	6.1.3.5	-	O	-	
			Receiving a SM STATUS message by a SM entity	Ditto	6.1.3.6	-	M	-	

		SMS (Optional)	CM-procedure	24.011	5	-	-	-	
			SM-RL-procedure	Ditto	6	-	-	-	
			Message format on BTS-MS I/F	04.12	3	-	-	-	04.12 For further sturdy
		Supp. (Opt)	Generic Procedure for the control of SS	24.010	2	-	-	M	SA defines items. SS&CC are Related.
			SS Support procedure	Ditto	3	-	-	M	

3GPP TSG-CN3 / ETSI SMG3 WPD
Meeting #6, Sophia Antipolis, France,
18-22 October 1999

N3-99332

Source : TSG-CN3

To : TSG-T2 SWG2 Terminal Interfaces

Title : LS to T3 on Rejection on GPRS ATD modification

TSG-CN3 thanks TSG-T-WG2-SWG2 for their LS on rejection of GPRS ATD modification. Having discussed the comments CN3 accept this for release ’97 and ’98 but believe the modification cannot be only accepted for release ’99 due to backward compatibility problems.

Nevertheless, CN3 still believes that the modification for release ’97, ‘98’ and ’99 would be beneficial from an end users perspective, and therefore perhaps of commercial value.

TSG-CN3 believes that if all terminal manufacturers were in agreement to this modification then there is no reason why it cannot be accepted for releases ’97, ’98 and ’99. TSG-CN3 believes it would be useful for TSG-T-WG2-SWG2 to conduct a terminal manufacturer survey to reach a consensus of opinion.

3GPP TSG-CN3 / ETSI SMG3 WPD
Meeting #6, Sophia Antipolis, France,
18-22 October 1999

N3-99333

Source : TSG-CN3

To : TSG-T2-SWG5 and TSG-RAN-WG2

Title : LS on Definition of Active Communication for Packet Domain

TSG-CN3 have reviewed the documents T2-99881 and R2#7(99)D25 on “Definitions for usage of multimode / system terminals”. These documents refer to the proposed definition of “Active Communications”.

TSG-CN3 is of the opinion that “Active Communication” for the Packet Domain should not be associated with the term “session”, but as for the Active State as defined in 3G TS-23.060, chapter on Packet Routing and Transfer Functionality.

This means that “Active Communication” for the Packet domain should be defined as “the existence of one or more Activated PDP contexts”.

3GPP TSG-CN3 / ETSI SMG3 WPD
Meeting #6, Sophia Antipolis, France,
18-22 October 1999

N3-99334

Source : TSG-CN3

To : TSG-CN1

Title : LS on Iu UP Protocol Framing of NAS User Data

TSG-CN3 have reviewed the document S2q-99-037 (included in N3-99289), Iu UP Protocol Framing of NAS User Data as requested by TSG-SA-WG2 and offer the following comments to TSG-CN1.

TSG-CN3 is of the opinion that it appears reasonable to have an Iu UP frame size dependent on the bearer capability to satisfy that service QoS.

For the Packet domain TSG-CN3 is not sure as to the reference of GTP/UDP/IP in table X, because the combination of the 3 protocols in our opinion would result in an AAL5 SDU. TSG-CN3 offers the proposal that for NAS user data the Iu(ps) UP SDU's size is set to carry only the complete GTP SDU.

3GPP TSG-CN3 / ETSI SMG3 WPD **N3-99289**
Meeting #6, Sophia Antipolis, France,
18-22 October 1999

3GPP TSG SA WG2 S2-99999
September 13-17, 1999
Bonn, Germany

To: 3GPP CN WG1, CN WG3
CC:
Source: 3GPP SA WG2
Title: Liaison statement on the Iu UP protocol framing of NAS user data

At the QoS ad hoc meeting during 3GPP S2#8 in September 13-17, 1999 in Bonn, Germany, the attached contribution (S2q99037: “Iu UP protocol framing of NAS user data“) was introduced. Unfortunately, there is no experts about this issue in the QoS ad hoc group, and the mapping from CC/SM to RAB parameters is in the responsibility of CN WG1 and CN WG3. Therefore, we would sincerely like the N1/N3 group to check this proposal.

Attachment:

TSG-SA Working Group 2
QoS Ad Hoc
16 September 1999
BONN, GERMANY

S2q-99-037

Source: NTT DoCoMo
Title: Iu UP protocol framing of NAS user data
Document for: Discussion

1.Introduction

When NAS user data is transferred over Iu interface, the data is framed and conveyed by Iu User Plane (UP) protocol. How the data is framed depends upon the structure of the NAS user data. Through the transfer, the structure must be preserved. This contribution discusses the framing policy of the NAS user data for the transfer on Iu interface.

Discussion

Table 1 shows the structure of NAS user data for each service expected in R99. Structure of NAS data relies on the type of service.

Table 1

Name of service	Structure of NAS data
Speech	GSM AMR frame (20msec) integrity
Packet	GTP SDU integrity
CS Data (e.g. FAX/MODEM)	RLP PDU (576bit) integrity
UDI	8kHz (8 bits) integrity
Multi-media telephony (MMT)	8kHz (8 bits) integrity

Through the transfer of NAS user data over Iu interface, the structure of the data must be preserved. Then, in general, it is assumed to place one NAS data structure onto one Iu UP frame since this rule minimizes both the complexity and the queuing delay. Such an approach is suitable for Speech, Packet, and FAX/MODEM. Figure 1 and Figure 2 show how the assembly and segmentation procedures for GSM AMR and Packet service are performed across Iu IF (and Iur/Iub as well) respectively, according to this rule.

However, should such procedure be applied to UDI or MMT, one Iu UP frame must be prepared for each UDI/MMT structure that is “one octet.” It is easy to understand that such an implementation is inefficient and unrealistic. Therefore, services with short structure, like UDI and MMT, should be treated differently from other services. The optimum unit of NAS user data framing for such services is discussed below based on such an observation.

In the UTRAN, user data is transferred between RNC and Node B once in the interleaving period of the radio channel coding. For downlink, Node Bs receive the user data once in the interleaving period, perform radio channel coding, and transfer the data to the radio

interface. For uplink, the radio channel decoding is performed for each interleaving period and the Node Bs transfer the decoded user data to the RNCs, where macro-diversity combining is performed.

For services with short NAS user data structure, the interleaving length for radio channel coding should be applied to the framing of the NAS user data for the transfer over Iu. If the user data is framed and transferred in a shorter unit than the interleaving length, it only adds unnecessary overhead (Multiple Iu UP frames are sent once in the interleaving period.). On the other hand, if the Iu UP framing of the NAS user data is longer than the interleaving length, it leads to additional delay in the end-to-end communication. NAS user data framing based on the interleaving length is the optimum from both efficiency and quality points of view. Figure 3 shows how the assembly and segmentation procedures for UDI and MMT are performed.

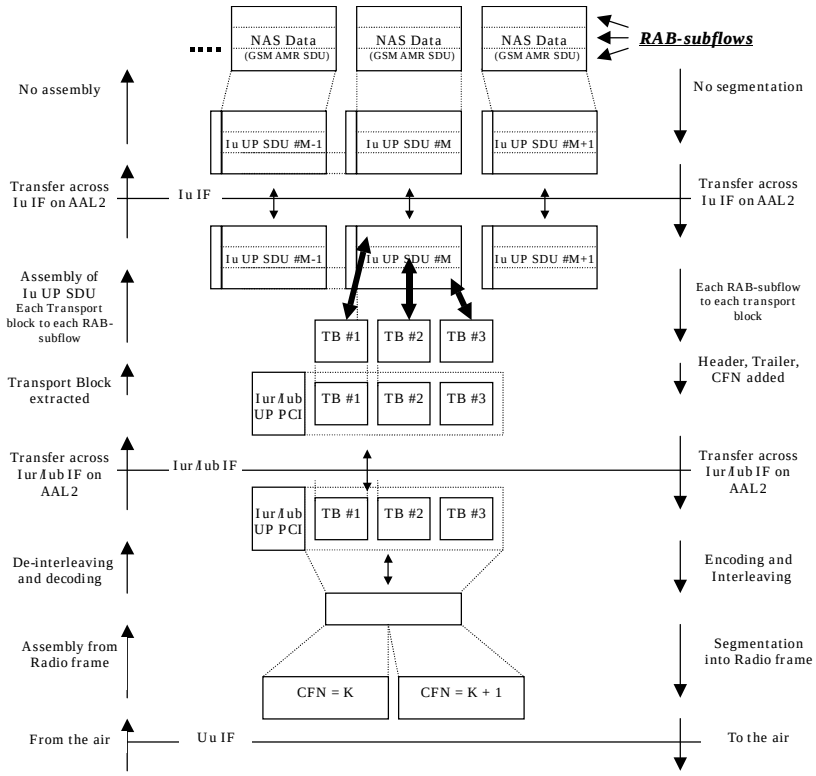

Figure 1 NAS data assembly and segmentation procedure (GSM AMR speech service)

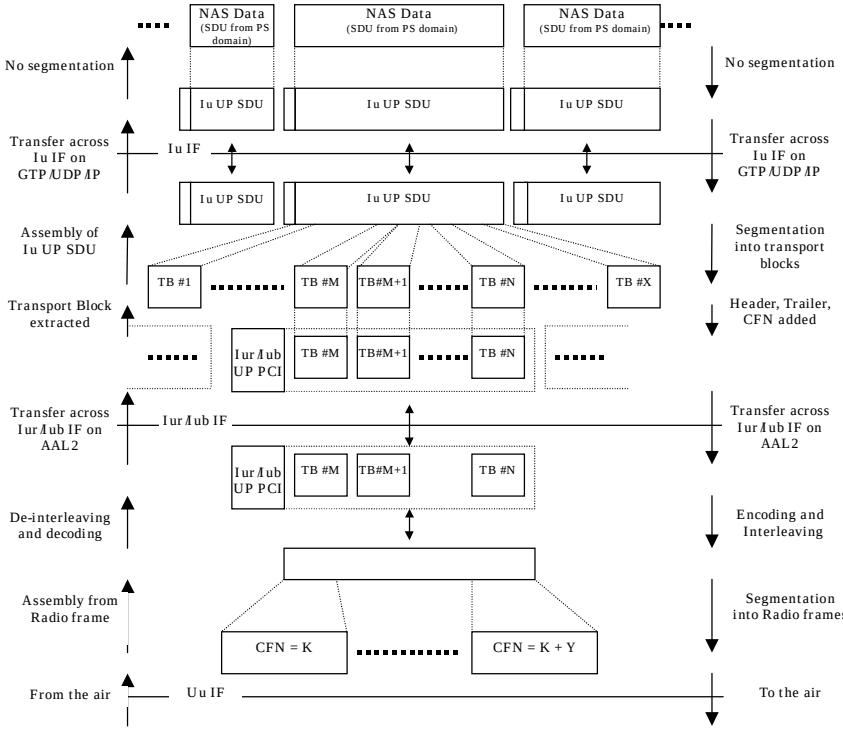

Figure 2 NAS data assembly and segmentation procedure (PS service)

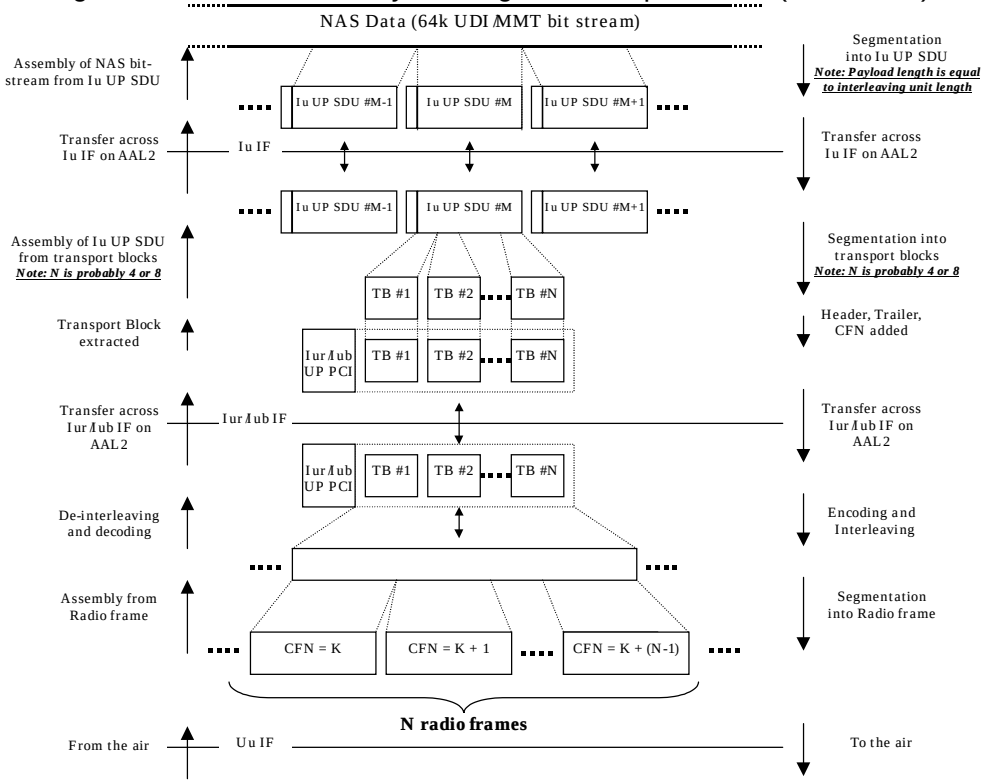

Figure 3 NAS data assembly and segmentation procedure (UDI / Multimedia Telephony service)

Proposal

- It is proposed to incorporate the following table as a new annex to TR 23.907 as a

guideline to decide the SDU size for radio access bearer service attributes.

Table X A guideline for SDU size determination

Name of service	Iu UP frame payload
Speech	GSM AMR frame (20msec)
Packet	GTP/UDP/IP PDU
CS Data (e.g. FAX/MODEM)	RLP PDU (576bit)
UDI	Interleaving unit
Multi-media telephony (MMT)	Interleaving unit

3GPP TSG-CN3 / ETSI SMG3 WPD
Meeting #6, Sophia Antipolis, France,
18-22 October 1999

N3-99335

Source : TSG-CN3

To : TSG-S1

cc: TSG-S2, TSG-T2, TSG-N1

Title : LS to S1 on 3G Services

TSG-CN3 has reviewed 27.060 and would like to clarify the following:

1) TSG CN3 has reviewed the work item Modem / ISDN interworking, and proposes to delete the work item, since there has been no input from supporting companies since its creation. As the <PDP type>"OSP" was developed in 2G+ to enable the services of IHOSS and Modem / ISDN interworking, TSG CN3 seeks advice as to the continued need for IHOSS and Modem / ISDN interworking , and hence the <PDP type>"OSP", in UMTS.

2) In reviewing TS 23.060 TSG CN3 has noted the removal of TCP from the Packet Domain transmission planes for Release '99. This would suggest that the core network no longer supports <PDP type> "X.25", since X.25 requires a reliable layer 2. TSG CN3 ask TSG S1 to clarify the support of <PDP type> "X.25" in UMTS, because GSM 09.61 supports X.75' Interworking to BOC LATA networks as requested by T1P1 and approved by SMG.

Both of these issues impact on TSG CN3's progress on TS 27.060 and TS 29.061.

3GPP TSG-CN3 / ETSI SMG3 WPD **N3-99491**
Meeting #7, Sophia Antipolis, France,
29th November – 3rd December 1999

Source: **N3**

Title: **LS on QoS mapping in case of HO from 3G to 2G system**

To: **S2**

CC: **N1**

N3 would like inform S2 about the current working assumption described in the following text. This working assumption is reflected in TS 27.001.

Background

In case a UMTS call is set up in the CN, the BC IE parameters are mapped into QoS RAB parameters at call set-up.
If the CN has to perform a handover towards GSM, the non-anchor MSC needs to perform an assignment based on GSM traffic channel parameters.
Assuming that the BSSMAP protocol is used in case of handover from UMTS to GSM, several possibilities are offered:

a) The anchor MSC maps QoS parameters into GSM traffic channel parameters.
b) The anchor MSC maps the BC IE parameters into GSM traffic channel parameters.

Solution a) has the drawback that a mapping procedure from QoS parameters into BSSMAP parameter channel type is not straight forward. The translation would have to assume possible channel codings and rates requested by the user and supported for the requested service.
A more appropriate and simpler mapping consists of using the original BC IE and perform a second mapping, into GSM specific BSSMAP traffic channel parameters, according to existing GSM procedures.
This requires that the BC IE is coded according to GSM protocol requirements, i.e. all those parameters not applicable to UMTS should nevertheless be correctly specified by the UE in order to perform a handover to GSM according the above specified principles.

Working Assumption

The BSSMAP parameters needed for handover to GSM are generated using the standard GSM procedure by mapping the BC IE into BSSMAP parameters.

Proposal

It is proposed to describe the mapping procedure for handover in [1].

References

[1] 3G TS 23.107 V 3.0.0
QoS Concept and Architecture

3GPP TSG-CN3 / ETSI SMG3 WPD **N3-99474**
Meeting #7, Sophia Antipolis, France,
29th November – 3rd December 1999

To: **S2**

CC: **R2, R3**

Source: **N3**

Title: **Response liaison on UMTS and RAB parameter value ranges and granularity**

TSG CN WG3 thanks SA WG2 for the LS on UMTS and RAB parameter value ranges and granularity (Tdoc S2-99990).

CN3 has evaluated QoS values for circuit switched data , and defined the following:

1. Appropriate value for Residual bit error ratio and service limits for SDU error ratio and transfer delay
2. Possible values for maximum bit rate and guaranteed bit rate
3. Possible SDU sizes and maximum SDU sizes

The proposed values (of parameter format according to TS 25.413 V1.4.1) are shown in the tables below.

Note that it is N3's understanding that zero size SDUs are not required in the RAB QoS specifications below, although the delivery of an SDU is not requested at regular intervals from the NAS.

Table 1. Mapping of BC IE into QoS parameters for non-transparent data.

Service identified by the BC IE	**Non-transparent data**	**Comments**
Traffic Class	Streaming	
Maximum bit rate	14.4, 28.8, 57.6 kbit/s	Maximum bit rate is set to the highest value ≤ WAIUR (note 1)
Guaranteed bit rate	14.4 kbit/s	
Delivery Order	Yes	
Maximum SDU size	576 bits	
Transfer Delay	< 250 ms	Subject to operator tuning
Traffic Handling Priority	-	Not applicable
Source statistics descriptor	Unknown	
SDU Parameters		
SDU error ratio	< 10 %	Subject to operator tuning
Residual bit error ratio	10^{-3}	Subject to operator tuning.
Delivery of erroneous SDUs	No	
Subflow SDU size parameters		
Rate Control Allowed	Yes	
Subflow SDU size	576 bit	

Note 1: In case the WAIUR is less than 14.4, the maximum bit rate is set to 14.4

Table 2. Mapping of BC IE into QoS parameters for transparent data.

Service identified by the BC IE	**Transparent data and BS for support of multimedia service**	**Comments**
Traffic Class	Conversational	
Maximum bit rate	= guaranteed bit rate	
Guaranteed bit rate	FNUR = 64 .. 28.8 kbit/s	GBR for FNUR=56 kbit/s is 64 kbit/s
Delivery Order	Yes	
Maximum SDU size	640 .. 288 bits (depending on the FNUR)	
Transfer Delay	< 200 ms	Subject to operator tuning
Traffic Handling Priority	-	Not applicable
Source statistics descriptor	Unknown	
SDU Parameters		
SDU error ratio	-	Not applicable
Residual bit error ratio	10^{-4}	Subject to operator tuning.
Delivery of erroneous SDUs	-	No error detection in the core network
Subflow SDU size parameters		
Rate Control Allowed	No	
Subflow SDU size	Maximum SDU size	

3GPP TSG CN3#7 ***N3-99514***
Sophia Antiplois
29th November – 3rd December, 1999

To: TSG-S1

cc: TSG-S2, TSG-T2, TSG-N1

Source: TSG N3

Title: Reply to LS to S1 on 3G Services

TSG CN3 thanks TSG S1 for the LS on 3G Services (Tdoc S1-991001). After consideration, N3 has agreed the deletion of the work item of Modem / ISDN interworking,as S1 do not see any market requirement in this area for R99. However, CN3 would ask S1 to confirm their requirement to the deletion of PDP type X.25, and that this has been agreed with T1P1. TSG CN3 believe T1P1 would need this to continue support for X.75' as specified in GSM 09.61 (BOC LATA Support).

Also, TSG CN3 has reviewed S1's update to the HSCSD stage 1 specification for 3GPP (Tdoc S1-99938), and have accepted the proposed changes in the accompanying draft CR.

3GPP TSG-CN3 / ETSI SMG3 WPD **N3-99460**

Meeting #7, Sophia Antipolis, France,

29th November – 3rd December 1999

To:	**TSG RAN2, TSG T2 WG5**
Source:	**TSG CN3**
CC:	
Title:	**LS on Definition of Active Communication for Packet Domain**
Document for:	**Discussion**

TSG CN3 thanks TSG RAN WG2 for their LS *TSGR2#8(99)g80 which conveys* their consideration of the definition of *'active communication' to be once a radio access bearer is established.*

However, TSG CN3 agrees with TSG T2 SWG5, as communicated in liaison statements TSGT2#7(99)924 and N3-99333, and that TSG CN3 confirms that the definition for active communication has been adopted as:

Active communication: a UE is in active communication when it has a CS connection established. For PS active communication is defined by the existence of one or more Activated PDP contexts. Either one or both of the mentioned active communications may occur in the UE.