3GPP TSG_CN / SMG3 **Tdoc NP-000189**
Plenary Meeting #7, Madrid, Spain
13th – 15th March 2000.

Source: **NTT DoCoMo**

Title: **Technical Implementation on Cause of No ID in R99**

Agenda item: **5.4**

Document for: **APPROVAL**

Introduction
This topic has been discussed in TTC since January on the technical realisation and the standardisation. In TTC meeting original proposal was accepted without any objection. Yet, after the decision a couple of delegates raised opinion that the procedure to be informed to 3GPP. Following the opinion, we submitted this topic in N1 and informed current technical realisation to 3GPP table.

This paper again, explains the requirement of Cause of NO ID and the technical approach, especially for R99.

Requirement
For example, in case of the MO call subscriber (A-party) do not wish to notify the calling party number to the MT subscriber (B-party), the reason will be notified to the B-party subscriber. Addition to this, some causes of no-ID (given to B-party) have been used in Japanese domestic telecommunication operators. Coming 3G NW in Japan, also has to support this capability from the first release of the service.

Following four cases NO calling party number is informed.

- Unavailable In case of the service is unavailable.
- User rejection In case of user do not wish to tell his number.
- Interaction with other services In case of service interaction.
- Coin line In case of a coin line call.

Procedure
TTC uses TTC-ISUP and "Cause of No Id" has been defined as national option. (See Annex in detail)
A MT call is from the other network, IAM includes "Cause of No Id", this is forwarded to the visited MSC.
MSC includes "Cause of No Id IE" in SETUP(NW -> MT) and notify to MT.
The Cause of No Id IE is sent by setup-down link message with the Locking Shift IE, the a Locking shift procedure is a procedure which described in 3GPP specification, 24.008. (See Annex2 in detail)

In case of MT locates other NW
From broadcast information MT can recognise to which country (NW) it is belonging. (PLMN-ID in RRC broadcast information) When a MT is under Japanese NW (in this case), and once receives a Locking shift (which includes cause of no id in this case) the MT recognise the cause when the MT capable to understand them. The Locking shift will be used as an optional parameter. (See Annex2 in detail)

When a MT locates other NW that uses a Locking shift procedure in other purpose, MT will simply ignore them because it knows the user locates other country (NW) by the broadcast information.

Alternative in technical realisation in R99

This capability is important for domestic operator, here are several approach to satisfy this aiming to R99.

1) Use Current proposal in R99.
   This is feasible in R99 implementation. No roaming is expected in the release. In the later release, consider alternative solution if it is a better approach.

2) Standardise "Cause of No Id IE" in SETUP message (NW -> MT). (no use of Locking Shift).
   Requires CR for 24.008 and several CRs for 2x.081 series (x = 2,3,4).
   This would need several more meetings.

3) Use Line Identification SS:
   Another approaches is mentioned, yet there are some issued in this approach.
   Those issues are;
   - Calling party BCD number IEI (spare bits) may be used for future ISUP enhancements.
   - 3 bits are not enough. Multiple causes has to be carried.
   - In future, number of causes may be increased, proposal has to be considered this.

   Addition to the technical issues, this procedure requires the work with S1, NSS and N1. Considering practical time schedule, this approach to be considered as a R00 task.

Conclusion

We also support having one common specification in 3GPP and avoid regional divination. According to our investigation, again, the proposed technical solution do not deviate from current 3GPP specification. Additionally, R99 implementation of this capability is important for local telecommunication operator. If there is no other practical solution can be available for R99, end of Mar 2000, proposed approach will have to be used for R99. For the later release, the study to be continued.

codeset 7: user-specific information

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----------3G TS 24.008 v.3.2.1 10.5.4.2----------

ANNEX2

Message type: SETUP
Significance: global
Direction: network to mobile station

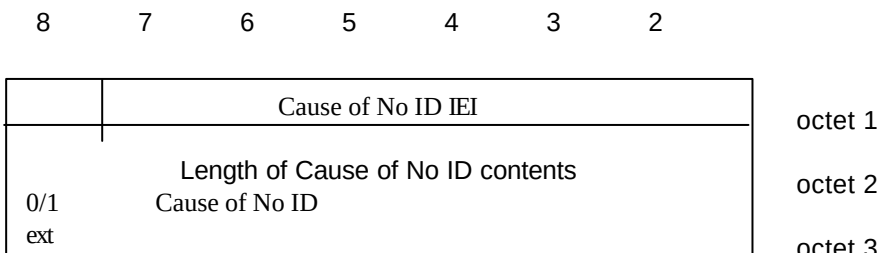
Table 9.70/TS 24.008: SETUP message content (network to mobile station direction)

IEI	Information element	Type / Reference	Presence	Format	Length
	Call control protocol discriminator	Protocol discriminator 10.2	M	V	1/2
	Transaction identifier	Transaction identifier 10.3.2	M	V	1/2

	Setup message type	Message type 10.4	M	V	1
D-	BC repeat indicator	Repeat indicator 10.5.4.22	C	TV	1
04	Bearer capability 1	Bearer capability 10.5.4.5	O	TLV	3-16
04	Bearer capability 2	Bearer capability 10.5.4.5	O	TLV	3-16
1C	Facility	Facility 10.5.4.15	O	TLV	2-?
1E	Progress indicator	Progress indicator 10.5.4.21	O	TLV	4
34	Signal	Signal 10.5.4.23	O	TV	2
5C	Calling party BCD number	Calling party BCD num. 10.5.4.9	O	TLV	3-14
5D	Calling party sub-address	Calling party subaddr. 10.5.4.10	O	TLV	2-23
5E	Called party BCD number	Called party BCD num. 10.5.4.7	O	TLV	3-19
6D	Called party sub-address	Called party subaddr. 10.5.4.8	O	TLV	2-23
74	Redirecting party BCD number	Redirecting party BCD num. 10.5.4.21a	O	TLV	3-19
75	Redirecting party sub-address	Redirecting party subaddress. 10.5.4.21b	O	TLV	2-23
D-	LLC repeat indicator	Repeat indicator 10.5.4.22	O	TV	1
7C	Low layer compatibility I	Low layer comp. 10.5.4.18	O	TLV	2-18
7C	Low layer compatibility II	Low layer comp. 10.5.4.18	C	TLV	2-18
D-	HLC repeat indicator	Repeat indicator 10.5.4.22	O	TV	1
7D	High layer compatibility i	High layer comp. 10.5.4.16	O	TLV	2-5
7D	High layer compatibility ii	High layer comp. 10.5.4.16	C	TLV	2-5
7E	User-user	User-user 10.5.4.25	O	TLV	3-35
8-	Priority	Priority Level 10.5.1.11	O	TV	1
19	Alert	Alerting Pattern 10.5.4.26	O	TLV	3
95	Locking shift(national use)	Shift	O	TV	1
08	Cause of No Id		O	TLV	3-n
2D	Stream Identifier	Stream Identifier 10.5.4.XX	O	TLV	3

Cause of No Id

IEI
8 7 6 5 4 3 2 1
0 : : : : : : : Type 3 & 4 information elements
(0 0 0 1 0 0 0) Cause of No ID



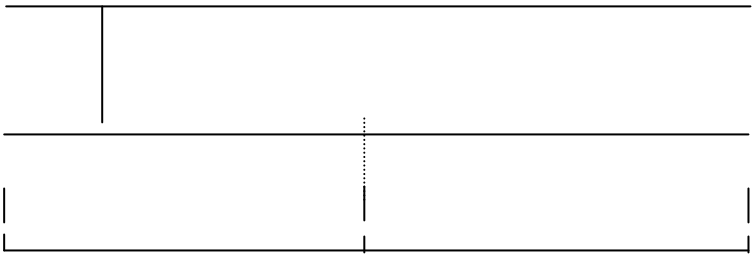


Figure ANNEX3.1 Cause of No ID information element

Table ANNEX3.1 Cause of No ID information element

Cause of No ID value Bits **7 6 5 4 3 2 1**
0 0 0 0 0 0 0 unavailable
0 0 0 0 0 0 1 rejected by user
0 0 0 0 0 1 0 interaction with other service
0 0 0 0 0 1 1 coin line
all other values are reserved

Figure: Mobile Terminated procedure (included “Cause of No Id”)