Author	Date	REFERENCE	
MORANE	31 July 2000	F 12 T 6002 3	
Name of WP/Activity WP 22: Review of Functional Interface Specification			**Contract:** **WP/ACT:**
Company/organization MORANE		**Team**	**MORANE** **WP/ACTIV: 22**

FIS FOR

CONFIRMATION OF HIGH PRIORITY CALLS

ACCESS : ☑ Public ❒ Restricted ❒ Confidential

	NAME	DATE	VISA
Author	MORANE	17/05/2000	WP 22 members
Reviewed	MORANE PMT	18/05/2000	PMT
Approval	R. Sarfati	31/07/2000	

EVOLUTION SHEET

Version	Date	Author	MODIFICATION
A	27/08/1996	AMC	Creation
B	09/09/1996	AMC	Update after review
1	09/09/1996	AMC	First approved version
1 A	16/04/1997	KAPSCH	SMS removed, various changes, Stage 3 incorporated
1 B	17/06/1997	KAPSCH	Editorial changes after review
2	03/08/97	KAPSCH	Editing for final second issue
3	31/07/2000	MORANE	Specification review third issue

TABLE OF CONTENTS

1. SCOPE ____ *4*

2. NORMATIVE REFERENCES ____ *4*

3. ABBREVIATIONS ____ *5*

4. INTERFACE DESCRIPTION (MESSAGE FUNCTIONAL DEFINITION AND CONTENTS) ____ *6*

4.1. Supplementary service UUS1 ____ **6**

5. Parameters in mobile application ____ *6*

5.1. Timers ____ **6**

5.2. Parameter values ____ **7**

6. PARAMETERS SENT TO TRAIN BORNE EVENT RECORDER ____ *8*

7. PARAMETERS STORED IN ACKNOWLEDGEMENT CENTRE ____ *8*

1. SCOPE

This Functional Interface Specification (FIS) specifies the GSM-R interface and message requirements necessary for the realisation of the GSM-R feature *Confirmation of high priority calls*. Additionally all parameters to be set in the mobile application, their formats and range of values are specified herein.

2. NORMATIVE REFERENCES

[1] MORANE FFFS for Location Dependent Addressing, F 10 T 6001
[2] MORANE SSRS, A 04/02 T 6002
[3] MORANE FFFS, Confirmation of high priority calls, F 10 T 6023
[4] GSM 03.68 8.0.0 Voice Group Call Service VGCS
[5] GSM 03.69 8.0.0 Voice Broadcast Service VBS
[6] 3G TS 24.087, v 3.0.0: User-to-user signalling (UUS) Service description – Stage 3
[7] 3G TS 24.008, v3.2.1 Mobile Radio Interface Layer 3 Spec.
[8] MORANE "Usage of the UUIE in the GSM-R environment", Ref.: H22T00011

3. ABBREVIATIONS

AC	Acknowledgement Centre
BSS	Base Station System
CP	Control Protocol
FN	Functional Number
GMSC	Gateway MSC
GSM	Global System for Mobile Communications
GSM-R	GSM Rail
ISDN	Integrated Service Digital Network
MA	Mobile Application
MSC	Mobile Switching Centre
MSISDN	Mobile Station ISDN Number
MT	Mobile Termination
PABX	Private Automatic Branch eXchange
SAPI	Service Access Point Identifier
SIM	Subscriber Identity Module
SM	Short Message
UUS1	User-to-user Signalling Service 1
VLR	Visitor Location Register

4. INTERFACE DESCRIPTION (MESSAGE FUNCTIONAL DEFINITION AND CONTENTS)

This FIS describes the special requirements of the user data layout for the GSM-R functionality *Confirmation of high priority calls* on the U_m interface for the standard GSM service User to User supplementary Service #1. A special interface description will not be given here because only standard GSM call scenarios are used.

4.1. Supplementary service UUS1

The SETUP message may contain a user-user information element (optional) according [6]. This user-user information element is used for the transfer of the confirmation message to the acknowledgement centre.

For the acknowledgement of the confirmation message either RELEASE COMPLETE or DISCONNECT message is used and contains as well a user-user information element according to [7]. For specific UUIE encodings for CHPC reference [8].

5. Parameters in mobile application

5.1. Timers

name	usage	started by:	stopped by:	bits/ count	limits
T_DUR	measures the duration of a call	signal from TASK MS-1 : 'Conf. Request'	signal from TASK MS-1: 'End of call'	24/up	min: 1/10 sec max.: approx.19 days
T_REL	time between end of call and transmission of confirmation	internal	internal	32/up	min: 1/10 sec max.: approx. 13 years
T_RAN	random timer	internal, pre-set with random value	internal, timervalue is zero	16/ down	max. 30sec *)
T_ACK	time-out : waiting for acknowledgement from AC	internal, pre-set with T_ACK_MAX	internal, timervalue is zero	16/ down	10 sec

*) with statistical equal probability distribution

Although the resolution of the timers is 1/10 sec their accuracy is in the region of approximately 1 second only.

5.2. Parameter values

N_ACK(16 Bit) repetition counter for number of trials to send confirmation

N_ACK_MAX (16 Bit) max. number of trials to send confirmation
0 no confirmation
1 no repetition of confirmation
...
value =100 to be pre-set by manufacturer
(for enableing faster testprocedures is recommended to keep this parameter accessible in testmode of the mobile station)

N_NESTED (8 Bit) counter for queuing of confirmation
N_NESTED_MAX (8 Bit) stackdepth for queuing of confirmation
value =10 to be pre-set by manufacturer
(for the reason of easier testing it is recommended to foresee a possibility to set this value down to a smaller value, when the mobile is in testmode)

PL_ACK (8 Bit) thresholdlevel for triggering confirmation service routine
5 Priority level 0
4 Priority level 1
3 Priority level 2
2 Priority level 3
1 Priority level 4
0 no triggering - no confirmation
value to be set by maintenance-personnel

PL_CONF (8 Bit) Priority level of confirmation call.
5 Priority level 0
4 Priority level 1
3 Priority level 2
2 Priority level 3
1 Priority level 4
0 no triggering - no confirmation
value to be set by maintenance-personnel

CONF_NR (16 Bit - 4 BCD digits)
storage for the AC - number (location dependent address)
value to be set by maintenance-personnel

Non volatile buffer with N_NESTED_MAX - times the following:
T_DUR_s 24 Bits
T_REL_s 32 Bits
PL_CALL 8 Bits
CAUSE 8 Bits
GC_REF 4x8 Bits (max.8 digits - BCD)
FNR 8x8 Bits (ITU-E.164: max.15 digits - BCD)

6. PARAMETERS SENT TO TRAIN BORNE EVENT RECORDER

The **format of entries** #1-2 are equal to that defined for the contents of the confirmation message respectively.

Entry #1:

PL_CALL	(8 Bit) Priority of incoming call
GC_REF	(32 Bit) max. 8 BCD digits Group Call Reference of incoming call
FNR	(64 Bit) max. 15 BCD digits Functional number selected on mobile

Entry#2:

T_DUR	(24 Bit) duration of the call (binary coded, tenth of seconds)
CAUSE	(8 Bit) Cause value for ending the call

Entry #3:

	ACK/CAUSE	(8 Bit) contains the value of the final acknowledge
0x00	ACK	finally no error
0x01 ... 0x7f		reparable error (finally not really)
0x80 ... 0xff		fatal error
	N_ACK (16 Bit)	number of trials needed

7. PARAMETERS STORED IN ACKNOWLEDGEMENT CENTRE

Absolute time (format not specified here)

octet 5 to octet 35 of UUI with the same format

T_DUR
T_REL
PL_CALL
CAUSE
GR_REF
FNR

MSISDN Number (from CLIP)

15 (BCD) (refer to ITU-E.164)