TSG-RAN Working Group 2 (Radio layer 2 and Radio layer 3) ***TSGR2#4(99)394***

Berlin, 25th to 28th May 1999

Agenda Item:

Source: Philips

Title: Change Request to S2.31 to add FAUSCH parameters to RRC messages parameters list

Document for: Decision

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1. Introduction

For the (optional) FAUSCH feature, a number of messages have to contain the IE for FAUSCH operation. In release messages, no IE on the FAUSCH is required, the network frees the FAUSCH code and time-offset allocated for the UE that sent the release message. The following messages should contain IEs related to FAUSCH:

1. System information (because FAUSCH is an optional feature)[1]
2. RRC Connection Establishment (RRC connection request and RRC connection setup)
3. RRC Connection Re-establishment
4. Hard Handover
5. Inter-system hard hand-over (GSM/BSS to UTRAN)
6. URA update confirm
7. Cell update confirm

The messages are listed in the sequence they have in S2.31 [1].

2. The messages to be supplemented for FAUSCH operation

10.1.1.3 Cell Update confirm

<Functional description of this message to be included here>

[1] The information concerning FAUSCH could also be contained implicitly in the RRC connection request/setup procedure: If FAUSCH is not supported, the UE would not receive a FAUSCH code/time-offset allocation, even if the UE supported the FAUSCH.

RLC-SAP: t.b.d.

Logical channel: t.b.d.

Direction: UTRAN→UE

Information element category	Information elements	REFERENCE	TYPE	NOTE
	Message Type		M	
UE information elements	S-RNTI		M	FFS whether in RRC or MAC PDU.
	SRNC identity		M	
	S-RNTI		O	New S-RNTI
	SRNC identity		O	New SRNC identity
	C-RNTI		O	New C-RNTI
PhyCH information elements	FAUSCH info		O	The network knows if several FAUSCH codes and time-offsets were allocated for a set of cells, and whether for this specific cell an update is required.

10.1.4.1 RRC Connection Re-Establishment

This message is used by the network to accept the re-establishment of an RRC connection for one UE, if the UE lost the radio connection.

RLC-SAP: t.b.d.

Logical channel: t.b.d.

Direction: UTRAN → UE

Information element category	Information elements	REFERENCE	TYPE	NOTE
	Message Type		M	
PhyCH information elements				
	FAUSCH info		O	

10.1.4.6 RRC Connection request

RRC Connection Request is the first message transmitted by the UE when setting up an RRC Connection to the network.

RLC-SAP: t.b.d.

Logical channel: CCCH

Direction: UE → UTRAN

Information element category	Information elements	REFERENCE	TYPE	NOTE	
	Message Type		M		
UE information elements	Initial UE identity		M	FFS whether conveyed on RRC or MAC.	
	Establishment cause		M		
	Initial UE capability		O	Necessity is FFS	
	FAUSCH support		O	Iff this IE is present the UE supports FAUSCH	
					For each measurement report
Measurement information elements	Measurement identity number		M	Refers to system information. Note 1	
	Intra-frequency measurement results		C	For intra-frequency measurements	

10.1.4.7 RRC Connection Setup

This message is used by the network to accept the establishment of an RRC connection for an UE, including assignment of signalling link information, transport channel information and optionally physical channel information.

RLC-SAP: t.b.d.

Logical channel: CCCH

Direction: UTRAN → UE

Information element category	Information elements	REFERENCE	TYPE	NOTE	
	Message Type		M		
UE information elements	Initial UE identity		M	FFS whether conveyed on RRC or MAC.	
	S-RNTI		M		
	SRNC identity		M		
	C-RNTI		O	Only if assigned to a common transport channel	
	Activation time		O		
RAB information elements	RAB identity		M	Indicates the signalling link	
	Signalling link type		M		
	RAB multiplexing info		M	For the signalling link	
TrCH information elements	TFCS		O	Uplink TFCS	
	TFCS		O	Downlink TFCS	
	TFC subset		O		
	Transport channel identity		M	For each new transport channel	Uplink transport channels
	TFS		M		
	Transport channel identity		M	For each new transport channel	Downlink transport channels
	TFS		M		
PhyCH information elements	Frequency info		O		
	Uplink DPCH power control info		O		
	Uplink DPCH info		O	Maximum one of these	Uplink radio resources
	PRACH info		O		
	Uplink timeslot info		O		
	Primary CCPCH info		O	For each radio link	Downlink radio resources
	Downlink DPCH info		O		
	Secondary CCPCH info		O		
	Downlink timeslot info		O	Note 1	
	SSDT indicator		O	Necessity is FFS	
	FAUSCH info		O		

10.1.1.6 Handover Command

<Functional description of this message to be included here>

RLC-SAP: t.b.d.

Logical channel: DCCH

Direction: UTRAN → UE

Information element category	**Information elements**	**REFERENCE**	**TYPE**	**NOTE**	
	Message Type		M		
Phy CH information elements	Frequency info		M		
	UL DPCH power control info		M		
	UL DPCH info		M		Uplink radio resources
	UL timeslot info		O		
	Primary CCPCH info		M	For each radio link. Note1	Downlink radio resources
	DL DPCH info		M		
	DL timeslot info		O	Note 2	
	SSDT indicator		O		
	FAUSCH info		O	The network knows if several FAUSCH codes and time-offsets were allocated for a set of cells, and whether for this specific cell an update is required.	

10.1.1.9 URA update confirm

<Functional description of this message to be included here>

RLC-SAP: t.b.d.

Logical channel: t.b.d.

Direction: UTRAN→UE

Information element category	Information elements	REFERENCE	TYPE	NOTE
	Message Type		M	
UE information elements	S-RNTI		M	FFS whether in RRC or MAC PDU.
	SRNC identity		M	
	S-RNTI		O	New S-RNTI
	SRNC identity		O	New SRNC identity
Phy CH information elements	FAUSCH info		O	Whether FAUSCH channels in several cells of the URA are required or not is clear from the RRC connection set up message.

10.1.6.1 System Information

<Functional description of this message to be included here>

RLC-SAP: t.b.d.

Logical channel: BCCH or DCCH

Direction: UTRAN → UE

NOTE: The division of the system information into messages is FFS.

Information element category	Information elements	REFERENCE	TYPE	NOTE	
	Message Type		M		
CN information elements	PLMN Identity		M		
	CN domain identity		M		For each Core Network Domain. Information must be included for at least one core network domain type.

	NAS system information		M		
UTRAN mobility information elements	URA identity		M		For each URA
	Information for periodic cell and URA update		M		*Note: not for each URA any more*
	Cell identity		M	The necessity and usage of cell identity is FFS.	
	Cell selection and re-selection info		M		
UE information elements	Uplink access control info		M		
PhyCH information elements	Frequency info		O	For each RACH	
	PRACH info		M		
	Frequency info		O	For each FACH on secondary CCPCH	
	Secondary CCPCH info		M		
	Frequency info		O	For each PCH on secondary CCPCH	
	Secondary CCPCH info		M		
	FAUSCH support		O	Iff this IE is present, the FAUSCH is supported	
	PRACH power control info		M		
Measurement Information elements	Measurement Identity Number		M	Note 1	For each Intra-frequency measurement control
	Intra-frequency cell info		M	For each measurement object	
	Intra-frequency measurement quantity		M		

	Intra-frequency measurement reporting criteria		M		
	Measurement Identity Number		M	Note 1	For each Inter-frequency measurement control
	Inter-frequency cell info		M	For each measurement object	
	Inter-frequency measurement quantity		M		
	Inter-frequency measurement reporting criteria		M		
	Measurement Identity Number		M	Note 1	For each Inter-system measurement control
	Inter-system cell info		M	For each measurement object	
	Inter-system measurement quantity		M		
	Inter-system measurement reporting criteria		M		

3. Information elements for FAUSCH operation

10.2.6.12 FAUSCH support

Parameters	REFERENCE	TYPE	NOTE
URA support (TRUE, FALSE)		M	
FAUSCH for DCH allocation (TRUE, FALSE)		M	
FAUSCH for USCH capacity request conveyance (TRUE, FALSE)		M	

10.2.6.13 FAUSCH info

Parameters	REFERENCE	TYPE	NOTE
Number of FAUSCH channels allocated		M	
FAUSCH code, FAUSCH time-offset, Cell identifier, FAUSCH usage		M	As many 4-tuples as given by the number of FAUSCH channels; FAUSCH usage can be: a) allocate a DCH b) request for capacity on the USCH It is possible to allocate a FAUSCH code and time-offset only for DCH allocation or only for USCH request conveyance

4. References

[1] TS RAN S2.31 v010, April 1999, “RRC Protocol Specification”