TSG-RAN Working Group 2 (Radio layer 2 and Radio layer 3) Sophia Antipolis, 16th to 20th August 1999 TSGR2#6(99)750

Agenda Item: 14.4

Source: Samsung Electronics

Title: Change Request to 25.331 for the clarification of control only substate.

Document for: Discussion and Decision

1. Introduction

The current RRC messages just have an ability to change the state of physical channel or transport channel. However, the state transitions between user data active substate(UDAS) and control only substate(COS) require a capability to change logical channel status [2]. In order to satisfy this requirement, we suggest to define a new information element for logical channel, "DTCH status"

Since this information element should be included in the messages that make state transition between COS and UDAS, we have to analyse which message is relevant to this state transition. Fortunately, Samsung already showed the relevant messages in a previous contribution [1] and the discussion result was the following.

- Active Set Update message.
- RRC connection setup message.
- RAB setup/release/reconfiguration message.
- Transport channel reconfiguration message.

2. Change request chapter 10 of TS 25.331

10.1.1.1 ACTIVE SET UPDATE

<Functional description of this message to be included here> RLC-SAP: t.b.d. Logical channel: DCCH

Direction: UTRAN \rightarrow UE

Information element cate- gory	Information elements	REFERENCE	TYPE	NOTE	
	Message Type		М		
UE information elements	Activation time		0		
LogCH Information elements	DTCH status		<u>0</u>		
Phy CH infor- mation ele-	Primary CCPCH info		М	Note 1	For each radio link to add
ments	Downlink DPCH info		М		
	Primary CCPCH info		М	Note 1	For each radio
	SSDT indicator		0		1

Note 1: If it is assumed that primary CCPCH downlink scrambling code is allways allocated with sufficient reuse distances, primary CCPCH downlink scrambling code will be enough for designating the different radiolinks.

10.1.4.7 RRC CONNECTION SETUP

Information element cate- gory	Information elements	REFERENCE	TYPE	NOTE	
	Message Type		М		
UE information elements	Initial UE identity		М	FFS whether co or MAC.	onveyed on RRC
	S-RNTI		М		
	SRNC identity		M		
	C-RNTI		0	Only if assigned to a commor transport channel	
	Activation time		0		
RAB informa- tion elements	RAB identity		М	Indicates the sig	gnalling link
tion elements	Signalling link type		М		
	RAB multiplexing info		М	For the signallir	ng link
LogCH information	DTCH status		0		
elements TrCH informa-	TFCS		0	Uplink TFCS	
tion elements	TFCS		0	Downlink TFCS	
	TFC subset		0		
	Transport channel identity TFS		M	For each new transport channel	Uplink trans- port channels
	Transport channel identity TFS		M M	For each new transport channel	Downlink transport channels
PhyCH infor-	Frequency info		0		
mation ele- ments	Uplink DPCH power control info		0		
	Uplink DPCH info PRACH info		0	Maximum one of these	Uplink radio resources
	Uplink timeslot info		0		
	Primary CCPCH info		0	For each radio	Downlink radio
	Downlink DPCH info Secondary CCPCH info		0	llink	resources
	Downlink timeslot info		0	Note 1	
	SSDT indicator		0	Necessity is FF	S
	Gated Transmission Control info		0	FFS	

10.1.5.3 RADIO ACCESS BEARER RECONFIGURATION

Information element cate- gory	Information elements	REFERENCE	TYPE	NOTE		
	Message Type		М			
UE Information	Activation time		0			
elements	C-RNTI		-	Only RACH/FA	CH	
RAB informa-	RAB identity		М		For each RAB	
tion elements	RLC info		0	FFS	affected by this	
	RAB multiplexing info		М		message	
			-			
LogCH	DTCH status		<u>0</u>			
information elements						
TrCH informa-	TFCS		0	for uplink DCH	c	
tion elements					5	
	TFCS		0	for downlink D	CHs	
			-			
	TFC subset		0	for DCHs in up	link	
	Transport channel identity		0	For each re-	Uplink trans-	
				moved trans-	port channels	
	Transport channel identity		0	port channel For each re-	-	
			0	configured or		
	TFS		0	added trans-		
	113		Ŭ	port channel		
			0	For each re-		
	Dynamic Control			configured or		
	Transmission time validity			added trans-		
	,			port channel		
				controlled by DRAC		
				DIVAO		
			1	1	1	

1	Time duration before retry	0		1
	Silent period duration before release	0		
		U		
		0	For each re- moved trans- port channel	Downlink transport channels
	Tranpsort channel identity	0	For each re-	
	TFS	0	configured or added trans- port channel	
<u> </u>				
PhyCH infor- mation ele-	Uplink DPCH power control info	0		
ments	Frequency info	0		
	Uplink DPCH info	0	Maximum one of these	Uplink radio resources
	PRACH info	0		
	Uplink timeslot info	0		
	Primary CCPCH info	0	For each radio	Downlink radio
	Downlink DPCH info	0	link	resources
	Secondary CCPCH info	0		
	Downlink timeslot info	0	Note 1	
	SSDT indicator	0	Necessity is FF	S
	Gated Transmission Control info	0	FFS	

10.1.5.5 RADIO ACCESS BEARER RELEASE

Information element cate- gory	Information elements	REFERENCE	TYPE	NOTE	
57	Message Type		М		
UE Information	Activation time		0		
elements	C-RNTI		0	Only RACH/FA	СН
RAB informa-	RAB identity		M	For each releas	
tion elements				T OF EACIT TELEAS	
	RAB identity		0	For each other RAB affected this message	
	RAB multiplexing info		0		
LogCH information elements	DTCH status		0		
TrCH informa- tion elements	TFCS		0	for uplink DCHs	3
	TFCS		0	for downlink DC	CHs
	TFC subset		0	for DCHs in upl	ink
	Transport channel identity		0	For each re- moved trans- port channel	Uplink trans- port channels
	Transport channel identity		0	For each re-	
	TFS		0	configured or added (FFS) transport channel	
	Dynamic Control		0	For each re-	
	Transmission time validity		0	configured or	
	Time duration before retry Silent period duration before release		0	added (FFS) transport channel, con- trolled by DRAC	
	Transport channel identity		0	For each re- moved trans- port channel	Downlink transport channels
	Transport channel identity		0	For each re-	
	TFS		0	configured or added trans- port channel	
PhyCH infor-	Uplink DPCH power control info		0		
mation ele- ments			0		
	Frequency info		0		
	Uplink DPCH info PRACH info		0	Maximum one of these	Uplink radio resources
	Uplink timeslot info		0		
	Primary CCPCH info Downlink DPCH info		0	For each radio link	Downlink radio resources
	Secondary CCPCH info		0	-	
	Downlink timeslot info		0	Note 1	

10.1.5.7 RADIO ACCESS BEARER SETUP

Message Type NAS binding info Activation time C-RNTI RAB identity RLC info RAB multiplexing info		M M 0 0	Transparent noi tum info e.g. be	
Activation time C-RNTI RAB identity RLC info		0		
Activation time C-RNTI RAB identity RLC info		0		
C-RNTI RAB identity RLC info		-		s. or identity.
RAB identity RLC info		0	1	
RLC info			Only RACH/FAC	СН
RLC info		Μ	For the new RA	
		M		D
		M		
RAB identity		0	For each other I	RAB affected by
RAB multiplexing info		0	this message	
DTCH status		0		
TFCS		0	for uplink DCHs	
TFCS		0	for downlink DC	Hs
TFC subset		0	for DCHs in upli	ink
Transport channel identity		0	moved trans-	Uplink trans- port channels
Transport channel identity		0	For each re-	
TFS		0	configured or added trans- port channel	
Dynamic Control		0	For each re-	
Transmission time validity		0	configured or	
Time duration before retry				
Silent period duration before release		0	port channel, controlled by DRAC	
Transport channel identity		0	For each re- moved (FFS) transport channel	Downlink transport channels
Transport channel identity		0		
TFS		0	configured or added trans- port channel	
Uplink DPCH power control info		0		
Frequency info		0		
····				
Uplink DPCH info		0	Maximum one	Uplink radio
			of these	resources
Uplink timeslot info		0		
Primary CCPCH info		0	For each radio	Downlink radio
Downlink DPCH info		0	link	resources
	RAB multiplexing info DTCH status TFCS TFCS TFC subset Transport channel identity Transport channel identity Transport channel identity TFS Dynamic Control Transmission time validity Time duration before retry Silent period duration before release Transport channel identity TRANSPORT CHANNEL IDENTIFY Dynamic COPCH power control info PRACH info Uplink DPCH info PRACH info Uplink timeslot info Primary CCPCH info	RAB multiplexing info	RAB multiplexing info 0 DTCH status 0 TFCS 0 TFCS 0 TFC subset 0 Transport channel identity 0 Transport channel identity 0 Transport channel identity 0 Transport channel identity 0 Dynamic Control 0 Transmission time validity 0 Time duration before retry 0 Silent period duration before release 0 Transport channel identity 0 TFS 0 Uplink DPCH power control info 0 Uplink DPCH info 0 Uplink timeslot info 0	RAB multiplexing info O this message DTCH status O for uplink DCHs TFCS O for uplink DCHs TFCS O for downlink DC TFC subset O for DCHs in uplint Transport channel identity O For each removed transport channel identity Transport channel identity O For each removed transport channel Transport channel identity O For each removed transport channel Dynamic Control O For each removed transport channel Dynamic Control O For each removed transport channel Transport channel identity O For each removed transport channel Transport channel identity O For each removed (FFS) Transport channel identity O For each removed (FFS)

Secondary CCPCH info	0	7
Downlink timeslot info	0	Note 1
SSDT indicator	0	Necessity is FFS
Gated Transmission Control info	0	FFS

10.1.5.9 TRANSPORT CHANNEL RECONFIGURATION

Information element cate- gory	Information elements	REFERENCE	TYPE	NOTE	
	Message Type		М		
UE Information	Activation time		0		
elements	C-RNTI		0	Only RACH/FA	СН
	Control-only-state-timer		0	FFS	
LogCH	DTCH status		0		
information					
<u>elements</u>					
TrCH informa-	TFCS		0	for uplink DCHs	6
tion elements					
	TFCS		0	for downlink DC	CHs
	TFC subset		0	for DCHs in upl	ink
	Transport channel identity		0	For each re-	Uplink trans-
	TFS		0	configured transport channel	port channels
	Dynamic Control		0	For each re-	
	Transmission time validity		ō	configured	
	Time duration before retry		0	transport	
	Silent period duration before release		0	channel, con- trolled by DRAC	
			-		I
	Transport channel identity TFS		0	For each re- configured transport channel	Downlink transport channels
PhyCH infor-	Uplink DPCH power control info		0		
mation ele-					
ments	Frequency info		0		
	Uplink DPCH info		0	Maximum one	Uplink radio
	PRACH info		0	of these	resources
	Uplink timeslot info		0		resources
	Primary CCPCH info		0	For each radio	Downlink radio
	Downlink DPCH info		0	link	resources
	Secondary CCPCH info		0	1	
	Downlink timeslot info		0	Note 1	1
	SSDT indicator		0	Necessity is FF	S
	Gated Transmission Control info		0	FFS	

10.2.X Logical CH Information elements

10.2.X.1 DTCH status

Indicates whether the using of logical channel DTCH is permitted.

3. References

- [1] 3GPP RAN WG2 TSGR2-99626 "The RRC messages relevant to control only substate," Samsung Electronics.
- [2] TS RAN 25.303 v300
- [3] TS RAN 25.331 v110
- "UE Functions and Interlayer Procedures in Connected Mode"
- "RRC Protocol Specification"