TSG RAN Meeting #24 **RP-040178**
SEOUL, South Korea, 02 - 04 June 2004

Title **CRs (Rel-5 and Rel-6 Category A) to TS 25.423 and TS 25.433 on Node B usage of the MAC-hs re-ordering buffer size**
Source **TSG RAN WG3**
Agenda Item **7.4.6**

RAN3 Tdoc	Spec	curr. Vers.	new Vers.	CR	Rev	Cat	Rel	Title	Work item
R3-040926	TS 25.423	5.9.0	5.10.0	960	1	F	Rel-5	Node B usage of the MAC-hs re-ordering buffer size	HSDPA-IubIur
R3-040761	TS 25.423	6.1.0	6.2.0	961	-	A	Rel-6	Node B usage of the MAC-hs re-ordering buffer size	HSDPA-IubIur
R3-040762	TS 25.433	5.8.0	5.9.0	992	-	F	Rel-5	Node B usage of the MAC-hs re-ordering buffer size	HSDPA-IubIur
R3-040763	TS 25.433	6.1.0	6.2.0	993	-	A	Rel-6	Node B usage of the MAC-hs re-ordering buffer size	HSDPA-IubIur

3GPP TSG-RAN3 Meeting #41
Montreal, Canada, 10 – 14th May 2004

Tdoc ⌘R3-040926

CR-Form-v7

CHANGE REQUEST

⌘ **25.423** **CR** **960** ⌘ **rev** **1** ⌘ Current version: **5.9.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: UICC apps⌘ ☐ ME ☐ Radio Access Network ☒ Core Network ☐

Title:	⌘	Node B usage of the MAC-hs re-ordering buffer size
Source:	⌘	RAN3
Work item code:	⌘	HSDPA-Iublur
Date:	⌘	10/05/2004
Category:	⌘	**F**
Release:	⌘	Rel-5

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:
2 *(GSM Phase 2)*
R96 *(Release 1996)*
R97 *(Release 1997)*
R98 *(Release 1998)*
R99 *(Release 1999)*
Rel-4 *(Release 4)*
Rel-5 *(Release 5)*
Rel-6 *(Release 6)*

Reason for change: ⌘ In RAN#23, CR94 to TS 25.306 on Correction to memory check in the UE has been approved. The consequences of the CR is that the MAC-hs re-ordering buffer size is not defined anymore in TS 25.306 whereas RNSAP still refers to this specification. There is now no need to consider in the Node B the UE memory consumption for MAC-hs PDU corresponding to RLC-AM radio bearers as it is already taken into account by the provisioning for a full Receiving RLC AM Window. On the other hand, the Node B needs to take into account the UE memory consumption for MAC-hs PDU corresponding to a RLC-UM radio bearer. So the information provided to the Node B in terms of MAC-hs Reordering Buffer Size should relate only to RLC-UM radio bearers.

Summary of change: ⌘

Rev 1:

The indentation of the *RLC Mode* IE in the *HS-DSCH MAC-d Flows Information* IE is corrected.

Rev 0:

The *MAC-hs Reordering Buffer Size* IE is redefined to relate only to RLC-UM radio bearers.

An indicator of which RLC mode (UM or AM) a given Priority Queue relates to is added to the protocol.

Impact Analysis:

Impact assessment towards the previous version of the specification (same release):

This CR has isolated impact with the previous version of the specification (same

		release) because it affects only one function: HSDPA. This CR has an impact under functional and protocol point of view. The impact can be considered isolated because the change affects only one system function namely the HSDPA.
Consequences if not approved:	⌘	The specification will remain incorrect for HSDPA.

Clauses affected:	⌘	9.2.1.30OA, 9.2.1.30Q, 9.2.1.34Ab, 9.2.1.x (new IE), 9.2.2.19a, 9.2.3.3aa, 9.3.4			
		Y	**N**		
Other specs	⌘	**X**		Other core specifications	⌘ CR 961 on 25.423 v 6.1.0 CR 992 on 25.433 v 5.8.0 CR 993 on 25.433 v 6.1.0
affected:			**X**	Test specifications	
			X	O&M Specifications	
Other comments:	⌘	In 9.2.1.30Q, the "Indent" before the Priority Queues IE has been corrected to 0. In 9.2.2.19a and 9.2.3.3aa, the "Indent" before the *MAC-hs Reordering Buffer Size for RLC-UM* IE is now 0 as a result of the corrections.			

How to create CRs using this form:

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9.2.1.30OA HS-DSCH MAC-d Flows Information

The *HS-DSCH MAC-d Flows Information* IE is used for the establishment of HS-DSCH MAC-d flows for a UE Context.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
HS-DSCH MAC-d Flow Specific Information		*1..<maxnoofMACdFlows>*		
>HS-DSCH MAC-d Flow ID	M		9.2.1.30O	
>Allocation/Retention Priority	M		9.2.1.1	
>Traffic Class	M		9.2.1.58A	
>Binding ID	O		9.2.1.3	Shall be ignored if bearer establishment with ALCAP.
>Transport Layer Address	O		9.2.1.62	Shall be ignored if bearer establishment with ALCAP.
Priority Queue Information		*1..<maxnoofPrioQueues>*		
>Priority Queue ID	M		9.2.1.45A	
>Associated HS-DSCH MAC-d Flow	M		HS-DSCH MAC-d Flow ID 9.2.1.30O	The HS-DSCH MAC-d Flow ID shall be one of the flow IDs defined in the HS-DSCH MAC-d Flow Specific Information of this IE.
>Scheduling Priority Indicator	M		9.2.1.51A	
>T1	M		9.2.1.54A	
>Discard Timer	O		9.2.1.19C	
>MAC-hs Window Size	M		9.2.1.34C	
>MAC-hs Guaranteed Bit Rate	O		9.2.1.34Aa	
>MAC-d PDU Size Index		*1..<maxnoofMACdPDUindexes>*		
>>SID	M		9.2.1.52D	
>>MAC-d PDU Size	M		9.2.1.34A	
>RLC Mode	M		9.2.1.x	

Range Bound	Explanation
maxnoofMACdFlows	Maximum number of HS-DSCH MAC-d flows
maxnoofPrioQueues	Maximum number of Priority Queues
maxnoofMACdPDUindexes	Maximum number of different MAC-d PDU SIDs

UNCHANGED TEXT IS REMOVED.

9.2.1.30Q HS-DSCH Information To Modify

The *HS-DSCH Information To Modify* IE is used for modification of HS-DSCH information in a UE Context.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
HS-DSCH MAC-d Flow Specific Information		*0..<maxnoofMACdFlows>*		
>HS-DSCH MAC-d Flow ID	M		9.2.1.30O	
>Allocation/Retention Priority	O		9.2.1.1	
>Transport Bearer Request Indicator	M		9.2.1.61	
>Traffic Class	O		9.2.1.58A	
>Binding ID	O		9.2.1.3	Shall be ignored if bearer establishment with ALCAP.
>Transport Layer Address	O		9.2.1.62	Shall be ignored if bearer establishment with ALCAP.
Priority Queue Information		*0..<maxnoofPrioQueues>*		
>CHOICE *Priority Queue*	M			
>>*Add Priority Queue*				
>>>Priority Queue ID	M		9.2.1.45A	
>>>Associated HS-DSCH MAC-d Flow	M		HS-DSCH MAC-d Flow ID 9.2.1.30O	Shall only refer to a HS-DSCH MAC-d flow already existing in the old configuration.
>>>Scheduling Priority Indicator	M		9.2.1.51A	
>>>T1	M		9.2.1.54A	
>>>Discard Timer	O		9.2.1.19C	
>>>MAC-hs Window Size	M		9.2.1.34C	
>>>MAC-hs Guaranteed Bit Rate	O		9.2.1.34Aa	
>>>MAC-d PDU Size Index		*1..<maxnoofMACdPDUindexes>*		
>>>>SID	M		9.2.1.52D	
>>>>MAC-d PDU Size	M		9.2.1.34A	
>>>RLC Mode	M		9.2.1.x	
>>*Modify Priority Queue*				
>>>Priority Queue ID	M		9.2.1.45A	Shall only refer to a Priority Queue already existing in the old configuration.
>>>Scheduling Priority Indicator	O		9.2.1.51A	
>>>T1	O		9.2.1.54A	
>>>Discard Timer	O		9.2.1.19C	
>>>MAC-hs Window Size	O		9.2.1.34C	
>>>MAC-hs Guaranteed Bit Rate	O		9.2.1.34Aa	
>>>MAC-d PDU Size Index		*0..<maxnoofMACdPDUindexes>*		
>>>>SID	M		9.2.1.52D	
>>>>MAC-d PDU Size	M		9.2.1.34A	
>>*Delete Priority Queue*				
>>>Priority Queue ID	M		9.2.1.45A	Shall only refer to a Priority Queue already existing in the old configuration.
MAC-hs Reordering Buffer Size for RLC-UM	O		9.2.1.34Ab	
CQI Feedback Cycle k	O		9.2.2.24a	For FDD only
CQI Repetition Factor	O		9.2.2.24c	For FDD only
ACK-NACK Repetition Factor	O		9.2.2.a	For FDD only
CQI Power Offset	O		9.2.2.24b	For FDD only
ACK Power Offset	O		9.2.2.b	For FDD only
NACK Power Offset	O		9.2.2.26a	For FDD only
HS-SCCH Power Offset	O		9.2.2.19d	For FDD only
HS-SCCH Code Change Grant	O		9.2.1.30S	
TDD ACK NACK Power Offset	O		9.2.3.7I	For TDD only

Range bound	Explanation
maxnoofMACdFlows	Maximum number of MAC-d flows.
maxnoofPrioQueues	Maximum number of Priority Queues.
maxnoofMACdPDUindexes	Maximum number of MAC-d PDU Size Indexes (SIDs).

UNCHANGED TEXT IS REMOVED.

9.2.1.34Ab MAC-hs Reordering Buffer Size for RLC-UM

The *MAC-hs Reordering Buffer Size for RLC-UM* IE indicates the portion of the ~~total~~ buffer ~~size defined~~ in the UE that can be used for RLC-UM traffic (i.e. for Priority Queues whose *RLC Mode* IE is set to "RLC-UM").~~capability minus the RLC AM buffer (see ref. [42] subclause 4.3).~~

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
MAC-hs Reordering Buffer Size for RLC-UM			INTEGER (~~1~~0..300,…)	Unit: kBytes And N kBytes = N*1024 Bytes. The D R N S shall use this value to avoid the overflow of the ~~MAC-hs reordering~~UE buffer.

UNCHANGED TEXT IS REMOVED.

9.2.1.x RLC Mode

The *RLC Mode* IE indicates the RLC Mode used for a Priority Queue.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
RLC Mode			ENUMERATED (RLC-AM, RLC-UM,…)	

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9.2.2.19a HS-DSCH FDD Information

The *HS-DSCH FDD Information* IE is used for initial addition of HS-DSCH information to UE Context.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
HS-DSCH MAC-d Flows Information	M		9.2.1.30OA	
UE Capabilities Information		1		
>HS-DSCH Physical Layer Category	M		9.2.1.30Oa	
>MAC-hs Reordering Buffer Size for RLC-UM	M		9.2.1.34Ab	
CQI Feedback Cycle k	M		9.2.2.24a	
CQI Repetition Factor	C-CQICyclek		9.2.2.24c	
ACK-NACK Repetition Factor	M		9.2.2.a	
CQI Power Offset	M		9.2.2.24b	
ACK Power Offset	M		9.2.2.b	
NACK Power Offset	M		9.2.2.26a	
HS-SCCH Power Offset	O		9.2.2.19d	

Condition	Explanation
CQICyclek	The IE shall be present if the *CQI Feedback Cycle k* IE is set to a value greater than 0.

UNCHANGED TEXT IS REMOVED.

9.2.3.3aa HS-DSCH TDD Information

The *HS-DSCH TDD Information* IE is used for initial addition of HS-DSCH information to a UE Context.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
HS-DSCH MAC-d Flows Information	M		9.2.1.30OA	
UE Capabilities Information		1		
>HS-DSCH Physical Layer Category	M		9.2.1.30Oa	
>MAC-hs Reordering Buffer Size for RLC-UM	M		9.2.1.34Ab	
TDD ACK NACK Power Offset	M		9.2.3.7I	

9.3.4 Information Element Definitions

```
-- **************************************************************
--
-- Information Element Definitions
--
-- **************************************************************

RNSAP-IEs {
itu-t (0) identified-organization (4) etsi (0) mobileDomain (0)
umts-Access (20) modules (3) rnsap (1) version1 (1) rnsap-IEs (2) }

DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

UNCHANGED TEXT IS REMOVED

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HSDSCH-FDD-Information ::= SEQUENCE {
    hSDSCH-MACdFlows-Information            HSDSCH-MACdFlows-Information,
    uE-Capabilities-Info                    UE-Capabilities-Info,
    mAChs-Reordering-Buffer-Size-for-RLC-UM  MAChsReorderingBufferSize-for-RLC-UM,
    cqiFeedback-CycleK                      CQI-Feedback-Cycle,
    cqiRepetitionFactor                     CQI-RepetitionFactor            OPTIONAL,
    -- This IE shall be present if the CQI Feedback Cycle k IE is set to a value greater than 0.
    ackNackRepetitionFactor                 AckNack-RepetitionFactor,
    cqiPowerOffset                          CQI-Power-Offset,
    ackPowerOffset                          Ack-Power-Offset,
    nackPowerOffset                         Nack-Power-Offset,
    hsscch-PowerOffset                      HSSCCH-PowerOffset              OPTIONAL,
    iE-Extensions                           ProtocolExtensionContainer { { HSDSCH-FDD-Information-ExtIEs } }      OPTIONAL,
    ...
}

HSDSCH-FDD-Information-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

UNCHANGED TEXT IS REMOVED

HSDSCH-Information-to-Modify ::= SEQUENCE {
    hSDSCH-MACdFlow-Specific-InfoList-to-Modify     HSDSCH-MACdFlow-Specific-InfoList-to-Modify      OPTIONAL,
    priorityQueue-Info-to-Modify                    PriorityQueue-InfoList-to-Modify                 OPTIONAL,
    mAChs-Reordering-Buffer-Size-for-RLC-UM             MAChsReorderingBufferSize-for-RLC-UM         OPTIONAL,
    cqiFeedback-CycleK                              CQI-Feedback-Cycle                               OPTIONAL,   -- For FDD only
    cqiRepetitionFactor                             CQI-RepetitionFactor                             OPTIONAL,   -- For FDD only
    ackNackRepetitionFactor                         AckNack-RepetitionFactor                         OPTIONAL,   -- For FDD only
```

```
    cqiPowerOffset                          CQI-Power-Offset                    OPTIONAL,   -- For FDD only
    ackPowerOffset                          Ack-Power-Offset                    OPTIONAL,   -- For FDD only
    nackPowerOffset                         Nack-Power-Offset                   OPTIONAL,   -- For FDD only
    hsscch-PowerOffset                      HSSCCH-PowerOffset                  OPTIONAL,   -- Only fFor FDD only
    hSSCCH-CodeChangeGrant                  HSSCCH-Code-Change-Grant            OPTIONAL,
    tDDAckNackPowerOffset                   TDD-AckNack-Power-Offset            OPTIONAL,   -- For TDD only
    iE-Extensions                           ProtocolExtensionContainer { { HSDSCH-Information-to-Modify-ExtIEs } }        OPTIONAL,
    ...
}

HSDSCH-Information-to-Modify-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

UNCHANGED TEXT IS REMOVED

HSDSCH-TDD-Information ::= SEQUENCE {
    hSDSCH-MACdFlows-Information            HSDSCH-MACdFlows-Information,
    uE-Capabilities-Info                    UE-Capabilities-Info,
    mAChs-Reordering-Buffer-Size-for-RLC-UM  MAChsReorderingBufferSize-for-RLC-UM,
    tDD-AckNack-Power-Offset                TDD-AckNack-Power-Offset,
    iE-Extensions                           ProtocolExtensionContainer { { HSDSCH-TDD-Information-ExtIEs } }      OPTIONAL,
    ...
}

HSDSCH-TDD-Information-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

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-- M

UNCHANGED TEXT IS REMOVED

MAChsReorderingBufferSize-for-RLC-UM ::= INTEGER (10..300,...)
-- Unit kBytes

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UNCHANGED TEXT IS REMOVED

PriorityQueue-InfoList ::= SEQUENCE (SIZE (1..maxNrOfPrioQueues)) OF PriorityQueue-InfoItem

PriorityQueue-InfoItem ::= SEQUENCE {
    priorityQueue-Id                    PriorityQueue-Id,
    associatedHSDSCH-MACdFlow           HSDSCH-MACdFlow-ID,
    schedulingPriorityIndicator         SchedulingPriorityIndicator,
    t1                                  T1,
    discardTimer                        DiscardTimer                OPTIONAL,
    mAC-hsWindowSize                    MAC-hsWindowSize,
```

```
    mAChsGuaranteedBitRate              MAChsGuaranteedBitRate      OPTIONAL,
    mACdPDU-Size-Index                  MACdPDU-Size-IndexList,
    rLC-Mode                            RLC-Mode,
    iE-Extensions                       ProtocolExtensionContainer { { PriorityQueue-InfoItem-ExtIEs } }        OPTIONAL,
    ...
}

PriorityQueue-InfoItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

PriorityQueue-InfoList-to-Modify ::= SEQUENCE (SIZE (1..maxNrOfPrioQueues)) OF ModifyPriorityQueue

PriorityQueue-InfoItem-to-Add ::= SEQUENCE {
    priorityQueue-Id                    PriorityQueue-Id,
    associatedHSDSCH-MACdFlow           HSDSCH-MACdFlow-ID,
    schedulingPriorityIndicator         SchedulingPriorityIndicator,
    t1                                  T1,
    discardTimer                        DiscardTimer                            OPTIONAL,
    mAC-hsWindowSize                    MAC-hsWindowSize,
    mAChsGuaranteedBitRate              MAChsGuaranteedBitRate                  OPTIONAL,
    mACdPDU-Size-Index                  MACdPDU-Size-IndexList,
    rLC-Mode                            RLC-Mode,
    iE-Extensions                       ProtocolExtensionContainer { { PriorityQueue-InfoItem-to-Add-ExtIEs } }       OPTIONAL,
    ...
}

PriorityQueue-InfoItem-to-Add-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

UNCHANGED TEXT IS REMOVED

-- R

UNCHANGED TEXT IS REMOVED

RL-Specific-DCH-Info-Item ::= SEQUENCE {
    dCH-id                  DCH-ID,
    bindingID               BindingID OPTIONAL,
    -- Shall be ignored if bearer establishment with ALCAP.
    transportLayerAddress   TransportLayerAddress       OPTIONAL,
    -- Shall be ignored if bearer establishment with ALCAP.
    iE-Extensions           ProtocolExtensionContainer { { RL-Specific-DCH-Info-Item-ExtIEs} }  OPTIONAL,
    ...
}

RL-Specific-DCH-Info-Item-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

RLC-Mode    ::= ENUMERATED {
    rLC-AM,
```

```
    rLC-UM,
    ...
}

RNC-ID                  ::= INTEGER (0..4095)

UNCHANGED TEXT IS REMOVED

-- U

UNCHANGED TEXT IS REMOVED

UE-Capabilities-Info ::= SEQUENCE {
    hSDSCH-Physical-Layer-Category      INTEGER (1..64,...),
    mAChs-Reordering-Buffer-Size        MAChsReorderingBufferSize,
    iE-Extensions                       ProtocolExtensionContainer { { UE-Capabilities-Info-ExtIEs } }       OPTIONAL,
    ...
}

UE-Capabilities-Info-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}
```

3GPP TSG-RAN3 Meeting #41
Montreal, Canada, 10 – 14th May 2004

Tdoc ⌘R3-040761

CR-Form-v7

CHANGE REQUEST

⌘ **25.423** **CR** **961** ⌘ **rev** **-** ⌘ Current version: **6.1.0** ⌘

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Category: ⌘	**A**	***Release:*** ⌘ Rel-6

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Summary of change: ⌘ The *MAC-hs Reordering Buffer Size* IE is redefined to relate only to RLC-UM radio bearers.

An indicator of which RLC mode (UM or AM) a given Priority Queue relates to is added to the protocol.

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The impact can be considered isolated because the change affects only one system function namely the HSDPA.

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		Y	**N**		
Other specs	⌘	**X**		Other core specifications	⌘ CR 960 on 25.423 v 5.9.0 CR 992 on 25.433 v 5.8.0 CR 993 on 25.433 v 6.1.0
affected:			**X**	Test specifications	
			X	O&M Specifications	
Other comments:	⌘	In 9.2.1.30Q, the "Indent" before the Priority Queues IE has been corrected to 0. In 9.2.2.19a and 9.2.3.3aa, the "Indent" before the *MAC-hs Reordering Buffer Size for RLC-UM* IE is now 0 as a result of the corrections.			

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>Transport Layer Address	O		9.2.1.62	Shall be ignored if bearer establishment with ALCAP.
Priority Queue Information		*1..<maxnoofPrioQueues>*		
>Priority Queue ID	M		9.2.1.45A	
>Associated HS-DSCH MAC-d Flow	M		HS-DSCH MAC-d Flow ID 9.2.1.30O	The HS-DSCH MAC-d Flow ID shall be one of the flow IDs defined in the HS-DSCH MAC-d Flow Specific Information of this IE.
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>MAC-hs Guaranteed Bit Rate	O		9.2.1.34Aa	
>MAC-d PDU Size Index		*1..<maxnoofMACdPDUindexes>*		
>>SID	M		9.2.1.52D	
>>MAC-d PDU Size	M		9.2.1.34A	
>RLC Mode	M		9.2.1.x	

Range Bound	Explanation
maxnoofMACdFlows	Maximum number of HS-DSCH MAC-d flows
maxnoofPrioQueues	Maximum number of Priority Queues
maxnoofMACdPDUindexes	Maximum number of different MAC-d PDU SIDs

UNCHANGED TEXT IS REMOVED.

9.2.1.30Q HS-DSCH Information To Modify

The *HS-DSCH Information To Modify* IE is used for modification of HS-DSCH information in a UE Context.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
HS-DSCH MAC-d Flow Specific Information		*0..<maxnoofMACdFlows>*		
>HS-DSCH MAC-d Flow ID	M		9.2.1.30O	
>Allocation/Retention Priority	O		9.2.1.1	
>Transport Bearer Request Indicator	M		9.2.1.61	
>Traffic Class	O		9.2.1.58A	
>Binding ID	O		9.2.1.3	Shall be ignored if bearer establishment with ALCAP.
>Transport Layer Address	O		9.2.1.62	Shall be ignored if bearer establishment with ALCAP.
Priority Queue Information		*0..<maxnoofPrioQueues>*		
>CHOICE *Priority Queue*	M			
>>*Add Priority Queue*				
>>>Priority Queue ID	M		9.2.1.45A	
>>>Associated HS-DSCH MAC-d Flow	M		HS-DSCH MAC-d Flow ID 9.2.1.30O	Shall only refer to a HS-DSCH MAC-d flow already existing in the old configuration.
>>>Scheduling Priority Indicator	M		9.2.1.51A	
>>>T1	M		9.2.1.54A	
>>>Discard Timer	O		9.2.1.19C	
>>>MAC-hs Window Size	M		9.2.1.34C	
>>>MAC-hs Guaranteed Bit Rate	O		9.2.1.34Aa	
>>>MAC-d PDU Size Index		*1..<maxnoofMACdPDUindexes>*		
>>>>SID	M		9.2.1.52D	
>>>>MAC-d PDU Size	M		9.2.1.34A	
>>>RLC Mode	M		9.2.1.x	
>>*Modify Priority Queue*				
>>>Priority Queue ID	M		9.2.1.45A	Shall only refer to a Priority Queue already existing in the old configuration.
>>>Scheduling Priority Indicator	O		9.2.1.51A	
>>>T1	O		9.2.1.54A	
>>>Discard Timer	O		9.2.1.19C	
>>>MAC-hs Window Size	O		9.2.1.34C	
>>>MAC-hs Guaranteed Bit Rate	O		9.2.1.34Aa	
>>>MAC-d PDU Size Index		*0..<maxnoofMACdPDUindexes>*		
>>>>SID	M		9.2.1.52D	
>>>>MAC-d PDU Size	M		9.2.1.34A	
>>*Delete Priority Queue*				
>>>Priority Queue ID	M		9.2.1.45A	Shall only refer to a Priority Queue already existing in the old configuration.
MAC-hs Reordering Buffer Size for RLC-UM	O		9.2.1.34Ab	
CQI Feedback Cycle k	O		9.2.2.24a	For FDD only
CQI Repetition Factor	O		9.2.2.24c	For FDD only
ACK-NACK Repetition Factor	O		9.2.2.a	For FDD only
CQI Power Offset	O		9.2.2.24b	For FDD only
ACK Power Offset	O		9.2.2.b	For FDD only
NACK Power Offset	O		9.2.2.26a	For FDD only
HS-SCCH Power Offset	O		9.2.2.19d	For FDD only
HS-SCCH Code Change Grant	O		9.2.1.30S	
TDD ACK NACK Power Offset	O		9.2.3.7I	For TDD only

Range bound	Explanation
maxnoofMACdFlows	Maximum number of MAC-d flows.
maxnoofPrioQueues	Maximum number of Priority Queues.
maxnoofMACdPDUindexes	Maximum number of MAC-d PDU Size Indexes (SIDs).

UNCHANGED TEXT IS REMOVED.

9.2.1.34Ab MAC-hs Reordering Buffer Size for RLC-UM

The *MAC-hs Reordering Buffer Size for RLC-UM* IE indicates the ~~total~~ portion of the buffer ~~size defined~~ in the UE that can be used for RLC-UM traffic (i.e. for Priority Queues whose *RLC Mode* IE is set to "RLC-UM"). ~~capability minus the RLC AM buffer (see ref. [42] subclause 4.3).~~

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
MAC-hs Reordering Buffer Size for RLC-UM			INTEGER (0~~1~~..300,…)	Unit: kBytes And N kBytes = N*1024 Bytes. The D R N S shall use this value to avoid the overflow of the ~~MAC-hs reordering~~UE buffer.

UNCHANGED TEXT IS REMOVED.

9.2.1.x RLC Mode

The *RLC Mode* IE indicates the RLC Mode used for a Priority Queue.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
RLC Mode			ENUMERATED (RLC-AM, RLC-UM,…)	

UNCHANGED TEXT IS REMOVED.

9.2.2.19a HS-DSCH FDD Information

The *HS-DSCH FDD Information* IE is used for initial addition of HS-DSCH information to UE Context.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
HS-DSCH MAC-d Flows Information	M		9.2.1.30OA	
UE Capabilities Information		1		
>HS-DSCH Physical Layer Category	M		9.2.1.30Oa	
>MAC-hs Reordering Buffer Size for RLC-UM	M		9.2.1.34Ab	
CQI Feedback Cycle k	M		9.2.2.24a	
CQI Repetition Factor	C-CQICyclek		9.2.2.24c	
ACK-NACK Repetition Factor	M		9.2.2.a	
CQI Power Offset	M		9.2.2.24b	
ACK Power Offset	M		9.2.2.b	
NACK Power Offset	M		9.2.2.26a	
HS-SCCH Power Offset	O		9.2.2.19d	

Condition	Explanation
CQICyclek	The IE shall be present if the *CQI Feedback Cycle k* IE is set to a value greater than 0.

UNCHANGED TEXT IS REMOVED.

9.2.3.3aa HS-DSCH TDD Information

The *HS-DSCH TDD Information* IE is used for initial addition of HS-DSCH information to a UE Context.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
HS-DSCH MAC-d Flows Information	M		9.2.1.30OA	
UE Capabilities Information		1		
>HS-DSCH Physical Layer Category	M		9.2.1.30Oa	
>MAC-hs Reordering Buffer Size for RLC-UM	M		9.2.1.34Ab	
TDD ACK NACK Power Offset	M		9.2.3.7I	

9.3.4 Information Element Definitions

```
-- **************************************************************
--
-- Information Element Definitions
--
-- **************************************************************

RNSAP-IEs {
itu-t (0) identified-organization (4) etsi (0) mobileDomain (0)
umts-Access (20) modules (3) rnsap (1) version1 (1) rnsap-IEs (2) }

DEFINITIONS AUTOMATIC TAGS ::=

BEGIN

UNCHANGED TEXT IS REMOVED

-- H

UNCHANGED TEXT IS REMOVED

HSDSCH-FDD-Information ::= SEQUENCE {
    hSDSCH-MACdFlows-Information            HSDSCH-MACdFlows-Information,
    uE-Capabilities-Info                    UE-Capabilities-Info,
    mAChs-Reordering-Buffer-Size-for-RLC-UM  MAChsReorderingBufferSize-for-RLC-UM,
    cqiFeedback-CycleK                      CQI-Feedback-Cycle,
    cqiRepetitionFactor                     CQI-RepetitionFactor            OPTIONAL,
    -- This IE shall be present if the CQI Feedback Cycle k IE is set to a value greater than 0.
    ackNackRepetitionFactor                 AckNack-RepetitionFactor,
    cqiPowerOffset                          CQI-Power-Offset,
    ackPowerOffset                          Ack-Power-Offset,
    nackPowerOffset                         Nack-Power-Offset,
    hsscch-PowerOffset                      HSSCCH-PowerOffset              OPTIONAL,
    iE-Extensions                           ProtocolExtensionContainer { { HSDSCH-FDD-Information-ExtIEs } }      OPTIONAL,
    ...
}

HSDSCH-FDD-Information-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

UNCHANGED TEXT IS REMOVED

HSDSCH-Information-to-Modify ::= SEQUENCE {
    hSDSCH-MACdFlow-Specific-InfoList-to-Modify     HSDSCH-MACdFlow-Specific-InfoList-to-Modify      OPTIONAL,
    priorityQueue-Info-to-Modify                    PriorityQueue-InfoList-to-Modify                 OPTIONAL,
    mAChs-Reordering-Buffer-Size-for-RLC-UM             MAChsReorderingBufferSize-for-RLC-UM         OPTIONAL,
    cqiFeedback-CycleK                              CQI-Feedback-Cycle                               OPTIONAL,   -- For FDD only
    cqiRepetitionFactor                             CQI-RepetitionFactor                             OPTIONAL,   -- For FDD only
    ackNackRepetitionFactor                         AckNack-RepetitionFactor                         OPTIONAL,   -- For FDD only
```

```
    cqiPowerOffset                          CQI-Power-Offset                    OPTIONAL,   -- For FDD only
    ackPowerOffset                          Ack-Power-Offset                    OPTIONAL,   -- For FDD only
    nackPowerOffset                         Nack-Power-Offset                   OPTIONAL,   -- For FDD only
    hsscch-PowerOffset                      HSSCCH-PowerOffset                  OPTIONAL,   -- Only fFor FDD only
    hSSCCH-CodeChangeGrant                  HSSCCH-Code-Change-Grant            OPTIONAL,
    tDDAckNackPowerOffset                   TDD-AckNack-Power-Offset            OPTIONAL,   -- For TDD only
    iE-Extensions                           ProtocolExtensionContainer { { HSDSCH-Information-to-Modify-ExtIEs } }        OPTIONAL,
    ...
}

HSDSCH-Information-to-Modify-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}
```

UNCHANGED TEXT IS REMOVED

```
HSDSCH-TDD-Information ::= SEQUENCE {
    hSDSCH-MACdFlows-Information            HSDSCH-MACdFlows-Information,
    uE-Capabilities-Info                    UE-Capabilities-Info,
    mAChs-Reordering-Buffer-Size-for-RLC-UM  MAChsReorderingBufferSize-for-RLC-UM,
    tDD-AckNack-Power-Offset                TDD-AckNack-Power-Offset,
    iE-Extensions                           ProtocolExtensionContainer { { HSDSCH-TDD-Information-ExtIEs } }      OPTIONAL,
    ...
}

HSDSCH-TDD-Information-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}
```

UNCHANGED TEXT IS REMOVED

```
-- M
```

UNCHANGED TEXT IS REMOVED

```
MAChsReorderingBufferSize-for-RLC-UM ::= INTEGER (01..300,...)
-- Unit kBytes
```

UNCHANGED TEXT IS REMOVED

```
-- P
```

UNCHANGED TEXT IS REMOVED

```
PriorityQueue-InfoList ::= SEQUENCE (SIZE (1..maxNrOfPrioQueues)) OF PriorityQueue-InfoItem

PriorityQueue-InfoItem ::= SEQUENCE {
    priorityQueue-Id                    PriorityQueue-Id,
    associatedHSDSCH-MACdFlow           HSDSCH-MACdFlow-ID,
    schedulingPriorityIndicator         SchedulingPriorityIndicator,
    t1                                  T1,
    discardTimer                        DiscardTimer                OPTIONAL,
    mAC-hsWindowSize                    MAC-hsWindowSize,
```

```
    mAChsGuaranteedBitRate              MAChsGuaranteedBitRate      OPTIONAL,
    mACdPDU-Size-Index                  MACdPDU-Size-IndexList,
    rLC-Mode                            RLC-Mode,
    iE-Extensions                       ProtocolExtensionContainer { { PriorityQueue-InfoItem-ExtIEs } }        OPTIONAL,
    ...
}

PriorityQueue-InfoItem-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

PriorityQueue-InfoList-to-Modify ::= SEQUENCE (SIZE (1..maxNrOfPrioQueues)) OF ModifyPriorityQueue

PriorityQueue-InfoItem-to-Add ::= SEQUENCE {
    priorityQueue-Id                    PriorityQueue-Id,
    associatedHSDSCH-MACdFlow           HSDSCH-MACdFlow-ID,
    schedulingPriorityIndicator         SchedulingPriorityIndicator,
    t1                                  T1,
    discardTimer                        DiscardTimer                            OPTIONAL,
    mAC-hsWindowSize                    MAC-hsWindowSize,
    mAChsGuaranteedBitRate              MAChsGuaranteedBitRate                  OPTIONAL,
    mACdPDU-Size-Index                  MACdPDU-Size-IndexList,
    rLC-Mode                            RLC-Mode,
    iE-Extensions                       ProtocolExtensionContainer { { PriorityQueue-InfoItem-to-Add-ExtIEs } }       OPTIONAL,
    ...
}

PriorityQueue-InfoItem-to-Add-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

UNCHANGED TEXT IS REMOVED

-- R

UNCHANGED TEXT IS REMOVED

RL-Specific-DCH-Info-Item ::= SEQUENCE {
    dCH-id                  DCH-ID,
    bindingID               BindingID OPTIONAL,
    -- Shall be ignored if bearer establishment with ALCAP.
    transportLayerAddress   TransportLayerAddress       OPTIONAL,
    -- Shall be ignored if bearer establishment with ALCAP.
    iE-Extensions           ProtocolExtensionContainer { { RL-Specific-DCH-Info-Item-ExtIEs} }  OPTIONAL,
    ...
}

RL-Specific-DCH-Info-Item-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}

RLC-Mode    ::= ENUMERATED {
    rLC-AM,
```

```
    rLC-UM,
    ...
}

RNC-ID                  ::= INTEGER (0..4095)

UNCHANGED TEXT IS REMOVED

-- U

UNCHANGED TEXT IS REMOVED

UE-Capabilities-Info ::= SEQUENCE {
    hSDSCH-Physical-Layer-Category      INTEGER (1..64,...),
    mAChs-Reordering-Buffer-Size        MAChsReorderingBufferSize,
    iE-Extensions                       ProtocolExtensionContainer { { UE-Capabilities-Info-ExtIEs } }       OPTIONAL,
    ...
}

UE-Capabilities-Info-ExtIEs RNSAP-PROTOCOL-EXTENSION ::= {
    ...
}
```

3GPP TSG-RAN3 Meeting #41
Montreal, Canada, 10 – 14th May 2004

Tdoc ⌘R3-040762

CR-Form-v7

CHANGE REQUEST

⌘ **25.423** **CR** **992** ⌘ **rev** **-** ⌘ Current version: **5.8.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: UICC apps⌘ ☐ ME ☐ Radio Access Network ☒ Core Network ☐

Title: ⌘	Node B usage of the MAC-hs re-ordering buffer size	
Source: ⌘	RAN3	
Work item code: ⌘	HSDPA-Iublur	***Date:*** ⌘ 10/05/2004
Category: ⌘	**F**	***Release:*** ⌘ Rel-5

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:
2 *(GSM Phase 2)*
R96 *(Release 1996)*
R97 *(Release 1997)*
R98 *(Release 1998)*
R99 *(Release 1999)*
Rel-4 *(Release 4)*
Rel-5 *(Release 5)*
Rel-6 *(Release 6)*

Reason for change: ⌘ In RAN#23, CR94 to TS 25.306 on Correction to memory check in the UE has been approved. The consequences of the CR is that the MAC-hs re-ordering buffer size is not defined anymore in TS 25.306 whereas NBAP still refers to this specification. There is now no need to consider in the Node B the UE memory consumption for MAC-hs PDU corresponding to RLC-AM radio bearers as it is already taken into account by the provisioning for a full Receiving RLC AM Window. On the other hand, the Node B needs to take into account the UE memory consumption for MAC-hs PDU corresponding to a RLC-UM radio bearer. So the information provided to the Node B in terms of MAC-hs Reordering Buffer Size should relate only to RLC-UM radio bearers.

Summary of change: ⌘ The *MAC-hs Reordering Buffer Size* IE is redefined to relate only to RLC-UM radio bearers.

An indicator of which RLC mode (UM or AM) a given Priority Queue relates to is added to the protocol.

Impact Analysis:

Impact assessment towards the previous version of the specification (same release):

This CR has isolated impact with the previous version of the specification (same release) because it affects only one function: HSDPA.

This CR has an impact under functional and protocol point of view.

The impact can be considered isolated because the change affects only one system function namely the HSDPA.

Consequences if not approved:	⌘	The specification will remain incorrect for HSDPA.

Clauses affected:	⌘	9.2.1.31H, 9.2.1.31IA, 9.2.1.38Ab, 9.2.1.x (new IE), 9.2.2.18D, 9.2.3.5F, 9.3.4			
		Y	**N**		
Other specs	⌘	**X**		Other core specifications	⌘ CR 960 on 25.423 v 5.9.0 CR 961 on 25.423 v 6.1.0 CR 993 on 25.433 v 6.1.0
affected:			**X**	Test specifications	
			X	O&M Specifications	
Other comments:	⌘	In 9.2.2.18D and 9.2.3.5F, the "Indent" before the *MAC-hs Reordering Buffer Size for RLC-UM* IE is now 0 as a result of the corrections.			

How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at http://www.3gpp.org/specs/CR.htm. Below is a brief summary:

1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.
2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.
3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

9.2.1.31H HS-DSCH Information To Modify

The *HS-DSCH Information To Modify* IE is used for modification of HS-DSCH information in a Node B Communication Context.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
HS-DSCH MAC-d Flow Specific Information		*0..<maxnoofMACdFlows>*		
>HS-DSCH MAC-d Flow ID	M		9.2.1.31I	
>Allocation/Retention Priority	O		9.2.1.1A	
>Transport Bearer Request Indicator	M		9.2.1.62A	
>Binding ID	O		9.2.1.4	Shall be ignored if bearer establishment with ALCAP.
>Transport Layer Address	O		9.2.1.63	Shall be ignored if bearer establishment with ALCAP.
Priority Queue Information		*0..<maxnoofPrioQueues>*		
>CHOICE *Priority Queue*	M			
>>*Add Priority Queue*				
>>>Priority Queue ID	M		9.2.1.49C	
>>>Associated HS-DSCH MAC-d Flow	M		HS-DSCH MAC-d Flow ID 9.2.1.31I	Shall only refer to an HS-DSCH MAC-d flow already existing in the old configuration.
>>>Scheduling Priority Indicator	M		9.2.1.53H	
>>>T1	M		9.2.1.56a	
>>>Discard Timer	O		9.2.1.24E	
>>>MAC-hs Window Size	M		9.2.1.38B	
>>>MAC-hs Guaranteed Bit Rate	O		9.2.1.38Aa	
>>>MAC-d PDU Size Index		*1..<maxnoofMACdPDUindexes>*		
>>>>SID	M		9.2.1.53I	
>>>>MAC-d PDU Size	M		9.2.1.38A	
>>>RLC Mode	M		9.2.1.x	
>>*Modify Priority Queue*				
>>>Priority Queue ID	M		9.2.1.49C	Shall only refer to a Priority Queue already existing in the old configuration.
>>>Scheduling Priority Indicator	O		9.2.1.53H	
>>>T1	O		9.2.1.56a	
>>>Discard Timer	O		9.2.1.24E	
>>>MAC-hs Window Size	O		9.2.1.38B	
>>>MAC-hs Guaranteed Bit Rate	O		9.2.1.38Aa	
>>>MAC-d PDU Size Index		*0..<maxnoofMACdPDUindexes>*		
>>>>SID	M		9.2.1.53I	
>>>>MAC-d PDU Size	M		9.2.1.38A	
>>*Delete Priority Queue*				
>>>Priority Queue ID	M		9.2.1.49C	Shall only refer to a Priority Queue already existing in the old configuration.
MAC-hs Reordering Buffer Size for RLC-UM	O		9.2.1.38Ab	
CQI Feedback Cycle k	O		9.2.2.21B	For FDD only
CQI Repetition Factor	O		9.2.2.4Cb	For FDD only
ACK-NACK Repetition Factor	O		9.2.2.a	For FDD only
CQI Power Offset	O		9.2.2.4Ca	For FDD only
ACK Power Offset	O		9.2.2.b	For FDD only
NACK Power Offset	O		9.2.2.23a	For FDD only

HS-SCCH Power Offset	O		9.2.2.18I	For FDD only
Measurement Power Offset	O		9.2.2.21C	For FDD only
HS-SCCH Code Change Grant	O		9.2.1.31L	
TDD ACK NACK Power Offset	O		9.2.3.18F	For TDD only

Range Bound	Explanation
maxnoofMACdFlows	Maximum number of HS-DSCH MAC-d flows
maxnoofPrioQueues	Maximum number of Priority Queues
maxnoofMACdPDUindexes	Maximum number of different MAC-d PDU SIDs

UNCHANGED TEXT IS REMOVED.

9.2.1.31IA HS-DSCH MAC-d Flows Information

The *HS-DSCH MAC-d Flows Information* IE is used for the establishment of HS-DSCH MAC-d flows for a Node B Communication Context.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
HS-DSCH MAC-d Flow Specific Information		*1..<maxnoofMACdFlows>*		
>HS-DSCH MAC-d Flow ID	M		9.2.1.31I	
>Allocation/Retention Priority	M		9.2.1.1A	
>Binding ID	O		9.2.1.4	Shall be ignored if bearer establishment with ALCAP.
>Transport Layer Address	O		9.2.1.63	Shall be ignored if bearer establishment with ALCAP.
Priority Queue Information		*1..<maxnoofPrioQueues>*		
>Priority Queue ID	M		9.2.1.49C	
>Associated HS-DSCH MAC-d Flow	M		HS-DSCH MAC-d Flow ID 9.2.1.31I	The HS-DSCH MAC-d Flow ID shall be one of the flow IDs defined in the HS-DSCH MAC-d Flow Specific Information of this IE.
>Scheduling Priority Indicator	M		9.2.1.53H	
>T1	M		9.2.1.56a	
>Discard Timer	O			
>MAC-hs Window Size	M		9.2.1.38B	
>MAC-hs Guaranteed Bit Rate	O		9.2.1.38Aa	
>MAC-d PDU Size Index		*1..<maxnoofMACdPDUindexes>*		
>>SID	M		9.2.1.53I	
>>MAC-d PDU Size	M		9.2.1.38A	
>RLC Mode	M		9.2.1.x	

Range Bound	Explanation
maxnoofMACdFlows	Maximum number of HS-DSCH MAC-d flows
maxnoofPrioQueues	Maximum number of Priority Queues
maxnoofMACdPDUindexes	Maximum number of different MAC-d PDU SIDs

UNCHANGED TEXT IS REMOVED.

9.2.1.38Ab MAC-hs Reordering Buffer Size for RLC-UM

The *MAC-hs Reordering Buffer Size for RLC-UM* IE indicates the portion of the ~~total~~ buffer ~~size defined~~ in the UE that can be used for RLC-UM traffic (i.e. for Priority Queues whose *RLC Mode* IE is set to "RLC-UM"). ~~capability minus the RLC AM buffer (see ref. [33] subclause 4.3).~~

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
MAC-hs Reordering Buffer Size for RLC-UM			INTEGER (~~1~~0..300,…)	Unit: kBytes And N kBytes = N*1024 Bytes. The Node B shall use this value to avoid the overflow of the ~~MAC-hs reordering~~ UE buffer.

UNCHANGED TEXT IS REMOVED.

9.2.1.x RLC Mode

The *RLC Mode* IE indicates the RLC Mode used for a Priority Queue.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
RLC Mode			ENUMERATED (RLC-AM, RLC-UM,…)	

UNCHANGED TEXT IS REMOVED.

9.2.2.18D HS-DSCH FDD Information

The *HS-DSCH FDD Information* IE is used for initial addition of HS-DSCH information to a Node B Communication Context.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
HS-DSCH MAC-d Flows Information	M		9.2.1.31IA	
UE Capabilities Information				
>HS-DSCH Physical Layer Category	M		9.2.1.31Ia	
~~>~~MAC-hs Reordering Buffer Size for RLC-UM	M		9.2.1.38Ab	
CQI Feedback Cycle k	M		9.2.2.21B	
CQI Repetition Factor	C-CQICyclek		9.2.2.4Cb	
ACK-NACK Repetition Factor	M		9.2.2.a	
CQI Power Offset	M		9.2.2.4Ca	
ACK Power Offset	M		9.2.2.b	
NACK Power Offset	M		9.2.2.23a	
HS-SCCH Power Offset	O		9.2.2.18I	
Measurement Power Offset	O		9.2.2.21C	

Condition	Explanation
CQICyclek	The IE shall be present if the *CQI Feedback Cycle k* IE is set to a value greater than 0.

UNCHANGED TEXT IS REMOVED.

9.2.3.5F HS-DSCH TDD Information

The *HS-DSCH TDD Information* IE is used for initial addition of HS-DSCH information to a Node B Communication Context.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
HS-DSCH MAC-d Flows Information	M		9.2.1.31IA	
UE Capabilities Information				
>HS-DSCH Physical Layer Category	M		9.2.1.31Ia	
~~>~~MAC-hs Reordering Buffer Size for RLC-UM	M		9.2.1.38Ab	
TDD ACK NACK Power Offset	M		9.2.3.18F	

9.3.4 Information Elements Definitions

```
--**************************************************************************
--
-- Information Element Definitions
--
--**************************************************************************

NBAP-IEs {
itu-t (0) identified-organization (4) etsi (0) mobileDomain (0)
umts-Access (20) modules (3) nbap (2) version1 (1) nbap-IEs (2) }

DEFINITIONS AUTOMATIC TAGS ::=
BEGIN

UNCHANGED TEXT IS REMOVED

-- ========================================
--  H
-- ========================================

UNCHANGED TEXT IS REMOVED

HSDSCH-FDD-Information ::= SEQUENCE {
    hSDSCH-MACdFlows-Information            HSDSCH-MACdFlows-Information,
    ueCapability-Info                       UE-Capability-Information,
    mAChs-Reordering-Buffer-Size-for-RLC-UM  MAChsReorderingBufferSize-for-RLC-UM,
    cqiFeedback-CycleK                      CQI-Feedback-Cycle,
    cqiRepetitionFactor                     CQI-RepetitionFactor            OPTIONAL,
    -- This IE shall be present if the CQI Feedback Cycle k is greater than 0
    ackNackRepetitionFactor                 AckNack-RepetitionFactor,
    cqiPowerOffset                          CQI-Power-Offset,
    ackPowerOffset                          Ack-Power-Offset,
    nackPowerOffset                         Nack-Power-Offset,
    hsscch-PowerOffset                      HSSCCH-PowerOffset              OPTIONAL,
    measurement-Power-Offset                Measurement-Power-Offset        OPTIONAL,
    iE-Extensions                           ProtocolExtensionContainer { { HSDSCH-FDD-Information-ExtIEs} }       OPTIONAL,
    ...
}

HSDSCH-FDD-Information-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

HSDSCH-TDD-Information ::= SEQUENCE {
    hSDSCH-MACdFlows-Information            HSDSCH-MACdFlows-Information,
    ueCapability-Info                       UE-Capability-Information,
    mAChs-Reordering-Buffer-Size-for-RLC-UM  MAChsReorderingBufferSize-for-RLC-UM,
    tDD-AckNack-Power-Offset                TDD-AckNack-Power-Offset,
    iE-Extensions                           ProtocolExtensionContainer { { HSDSCH-TDD-Information-ExtIEs} }       OPTIONAL,
    ...
```

```
}

HSDSCH-TDD-Information-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}


HSDSCH-Information-to-Modify ::= SEQUENCE {
    hsDSCH-MACdFlow-Specific-Info-to-Modify         HSDSCH-MACdFlow-Specific-InfoList-to-Modify      OPTIONAL,
    priorityQueueInfotoModify                       PriorityQueue-InfoList-to-Modify                 OPTIONAL,
    mAChs-Reordering-Buffer-Size-for-RLC-UM         MAChsReorderingBufferSize-for-RLC-UM             OPTIONAL,
    cqiFeedback-CycleK                              CQI-Feedback-Cycle                               OPTIONAL,   -- For FDD only
    cqiRepetitionFactor                             CQI-RepetitionFactor                             OPTIONAL,   -- For FDD only
    ackNackRepetitionFactor                         AckNack-RepetitionFactor                         OPTIONAL,   -- For FDD only
    cqiPowerOffset                                  CQI-Power-Offset                                 OPTIONAL,   -- For FDD only
    ackPowerOffset                                  Ack-Power-Offset                                 OPTIONAL,   -- For FDD only
    nackPowerOffset                                 Nack-Power-Offset                                OPTIONAL,   -- For FDD only
    hsscch-PowerOffset                              HSSCCH-PowerOffset                               OPTIONAL,   -- Fonly for FDD
only
    measurement-Power-Offset                        Measurement-Power-Offset                         OPTIONAL,   -- For FDD only
    hSSCCHCodeChangeGrant                           HSSCCH-Code-Change-Grant                         OPTIONAL,
    tDDAckNackPowerOffset                           TDD-AckNack-Power-Offset                         OPTIONAL,   -- For TDD only
    iE-Extensions                                   ProtocolExtensionContainer { { HSDSCH-Information-to-Modify-ExtIEs} }   OPTIONAL,
    ...
}

HSDSCH-Information-to-Modify-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

UNCHANGED TEXT IS REMOVED

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--  M
-- ============================================

UNCHANGED TEXT IS REMOVED

MAChsReorderingBufferSize-for-RLC-UM ::= INTEGER (10..300,...)
-- Unit kBytes

UNCHANGED TEXT IS REMOVED

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-- ============================================

UNCHANGED TEXT IS REMOVED

PriorityQueue-InfoList ::= SEQUENCE (SIZE (1..maxNrOfPriorityQueues)) OF PriorityQueue-InfoItem

PriorityQueue-InfoItem ::= SEQUENCE {
    priorityQueueId                     PriorityQueue-Id,
```

```
    associatedHSDSCH-MACdFlow           HSDSCH-MACdFlow-ID,
    schedulingPriorityIndicator         SchedulingPriorityIndicator,
    t1                                  T1,
    discardTimer                        DiscardTimer                OPTIONAL,
    mAC-hsWindowSize                    MAC-hsWindowSize,
    mAChsGuaranteedBitRate              MAChsGuaranteedBitRate                                  OPTIONAL,
    macdPDU-Size-Index                  MACdPDU-Size-Indexlist,
    rLC-Mode                            RLC-Mode,
    iE-Extensions                       ProtocolExtensionContainer { { PriorityQueue-InfoItem-ExtIEs} }         OPTIONAL,
    ...
}

PriorityQueue-InfoItem-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

PriorityQueue-InfoList-to-Modify ::= SEQUENCE (SIZE (1..maxNrOfPriorityQueues)) OF ModifyPriorityQueue

PriorityQueue-InfoItem-to-Add ::= SEQUENCE {
    priorityQueueId                     PriorityQueue-Id,
    associatedHSDSCH-MACdFlow           HSDSCH-MACdFlow-ID,
    schedulingPriorityIndicator         SchedulingPriorityIndicator,
    t1                                  T1,
    discardTimer                        DiscardTimer                                    OPTIONAL,
    mAC-hsWindowSize                    MAC-hsWindowSize,
    mAChsGuaranteedBitRate              MAChsGuaranteedBitRate                          OPTIONAL,
    macdPDU-Size-Index                  MACdPDU-Size-Indexlist,
    rLC-Mode                            RLC-Mode,
    iE-Extensions                       ProtocolExtensionContainer { { PriorityQueue-InfoItem-to-Add-ExtIEs} }  OPTIONAL,
    ...
}

PriorityQueue-InfoItem-to-Add-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

UNCHANGED TEXT IS REMOVED

-- ==========================================
--  R
-- ==========================================

UNCHANGED TEXT IS REMOVED

RL-ID ::= INTEGER (0..31)

RL-Set-ID               ::= INTEGER (0..31)

RLC-Mode    ::= ENUMERATED {
    rLC-AM,
    rLC-UM,
    ...
}
```

```
Round-Trip-Time-IncrDecrThres ::= INTEGER(0..32766)

UNCHANGED TEXT IS REMOVED

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--  U
-- ========================================

UNCHANGED TEXT IS REMOVED

UE-Capability-Information ::= SEQUENCE {
    hSDSCH-Physical-Layer-Category          INTEGER (1..64,...),
    mAChs-Reordering-Buffer-Size            MAChsReorderingBufferSize,
    iE-Extensions                       ProtocolExtensionContainer { { UE-Capability-Information-ExtIEs } }        OPTIONAL,
    ...
}

UE-Capability-Information-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}
```

3GPP TSG-RAN3 Meeting #41
Montreal, Canada, 10 – 14th May 2004

Tdoc ⌘R3-040763

CR-Form-v7

CHANGE REQUEST

⌘ **25.423** **CR** **993** ⌘ **rev** **-** ⌘ Current version: **6.1.0** ⌘

*For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.*

Proposed change affects: UICC apps⌘ ☐ ME ☐ Radio Access Network ☒ Core Network ☐

Title:	⌘	Node B usage of the MAC-hs re-ordering buffer size		
Source:	⌘	RAN3		
Work item code:	⌘	HSDPA-Iublur	***Date:*** ⌘	10/05/2004
Category:	⌘	**A**	***Release:*** ⌘	Rel-6

Use one of the following categories:
F *(correction)*
A *(corresponds to a correction in an earlier release)*
B *(addition of feature),*
C *(functional modification of feature)*
D *(editorial modification)*
Detailed explanations of the above categories can be found in 3GPP TR 21.900.

Use one of the following releases:
2 *(GSM Phase 2)*
R96 *(Release 1996)*
R97 *(Release 1997)*
R98 *(Release 1998)*
R99 *(Release 1999)*
Rel-4 *(Release 4)*
Rel-5 *(Release 5)*
Rel-6 *(Release 6)*

Reason for change: ⌘ In RAN#23, CR94 to TS 25.306 on Correction to memory check in the UE has been approved. The consequences of the CR is that the MAC-hs re-ordering buffer size is not defined anymore in TS 25.306 whereas NBAP still refers to this specification. There is now no need to consider in the Node B the UE memory consumption for MAC-hs PDU corresponding to RLC-AM radio bearers as it is already taken into account by the provisioning for a full Receiving RLC AM Window. On the other hand, the Node B needs to take into account the UE memory consumption for MAC-hs PDU corresponding to a RLC-UM radio bearer. So the information provided to the Node B in terms of MAC-hs Reordering Buffer Size should relate only to RLC-UM radio bearers.

Summary of change: ⌘ The *MAC-hs Reordering Buffer Size* IE is redefined to relate only to RLC-UM radio bearers.

An indicator of which RLC mode (UM or AM) a given Priority Queue relates to is added to the protocol.

Impact Analysis:

Impact assessment towards the previous version of the specification (same release):

This CR has isolated impact with the previous version of the specification (same release) because it affects only one function: HSDPA.

This CR has an impact under functional and protocol point of view.

The impact can be considered isolated because the change affects only one system function namely the HSDPA.

Consequences if not approved:	⌘	The specification will remain incorrect for HSDPA.

Clauses affected:	⌘	9.2.1.31H, 9.2.1.31IA, 9.2.1.38Ab, 9.2.1.x (new IE), 9.2.2.18D, 9.2.3.5F, 9.3.4			
		Y	**N**		
Other specs	⌘	**X**		Other core specifications	⌘ CR 960 on 25.423 v 5.9.0 CR 961 on 25.423 v 6.1.0 CR 992 on 25.433 v 5.8.0
affected:			**X**	Test specifications	
			X	O&M Specifications	
Other comments:	⌘	In 9.2.2.18D and 9.2.3.5F, the "Indent" before the *MAC-hs Reordering Buffer Size for RLC-UM* IE is now 0 as a result of the corrections.			

How to create CRs using this form:

Comprehensive information and tips about how to create CRs can be found at http://www.3gpp.org/specs/CR.htm. Below is a brief summary:

1) Fill out the above form. The symbols above marked ⌘ contain pop-up help information about the field that they are closest to.

2) Obtain the latest version for the release of the specification to which the change is proposed. Use the MS Word "revision marks" feature (also known as "track changes") when making the changes. All 3GPP specifications can be downloaded from the 3GPP server under ftp://ftp.3gpp.org/specs/ For the latest version, look for the directory name with the latest date e.g. 2001-03 contains the specifications resulting from the March 2001 TSG meetings.

3) With "track changes" disabled, paste the entire CR form (use CTRL-A to select it) into the specification just in front of the clause containing the first piece of changed text. Delete those parts of the specification which are not relevant to the change request.

9.2.1.31H HS-DSCH Information To Modify

The *HS-DSCH Information To Modify* IE is used for modification of HS-DSCH information in a Node B Communication Context.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
HS-DSCH MAC-d Flow Specific Information		*0..<maxnoofMACdFlows>*		
>HS-DSCH MAC-d Flow ID	M		9.2.1.31I	
>Allocation/Retention Priority	O		9.2.1.1A	
>Transport Bearer Request Indicator	M		9.2.1.62A	
>Binding ID	O		9.2.1.4	Shall be ignored if bearer establishment with ALCAP.
>Transport Layer Address	O		9.2.1.63	Shall be ignored if bearer establishment with ALCAP.
Priority Queue Information		*0..<maxnoofPrioQueues>*		
>CHOICE *Priority Queue*	M			
>>*Add Priority Queue*				
>>>Priority Queue ID	M		9.2.1.49C	
>>>Associated HS-DSCH MAC-d Flow	M		HS-DSCH MAC-d Flow ID 9.2.1.31I	Shall only refer to an HS-DSCH MAC-d flow already existing in the old configuration.
>>>Scheduling Priority Indicator	M		9.2.1.53H	
>>>T1	M		9.2.1.56a	
>>>Discard Timer	O		9.2.1.24E	
>>>MAC-hs Window Size	M		9.2.1.38B	
>>>MAC-hs Guaranteed Bit Rate	O		9.2.1.38Aa	
>>>MAC-d PDU Size Index		*1..<maxnoofMACdPDUindexes>*		
>>>>SID	M		9.2.1.53I	
>>>>MAC-d PDU Size	M		9.2.1.38A	
>>>RLC Mode	M		9.2.1.x	
>>*Modify Priority Queue*				
>>>Priority Queue ID	M		9.2.1.49C	Shall only refer to a Priority Queue already existing in the old configuration.
>>>Scheduling Priority Indicator	O		9.2.1.53H	
>>>T1	O		9.2.1.56a	
>>>Discard Timer	O		9.2.1.24E	
>>>MAC-hs Window Size	O		9.2.1.38B	
>>>MAC-hs Guaranteed Bit Rate	O		9.2.1.38Aa	
>>>MAC-d PDU Size Index		*0..<maxnoofMACdPDUindexes>*		
>>>>SID	M		9.2.1.53I	
>>>>MAC-d PDU Size	M		9.2.1.38A	
>>*Delete Priority Queue*				
>>>Priority Queue ID	M		9.2.1.49C	Shall only refer to a Priority Queue already existing in the old configuration.
MAC-hs Reordering Buffer Size for RLC-UM	O		9.2.1.38Ab	
CQI Feedback Cycle k	O		9.2.2.21B	For FDD only
CQI Repetition Factor	O		9.2.2.4Cb	For FDD only
ACK-NACK Repetition Factor	O		9.2.2.a	For FDD only
CQI Power Offset	O		9.2.2.4Ca	For FDD only
ACK Power Offset	O		9.2.2.b	For FDD only
NACK Power Offset	O		9.2.2.23a	For FDD only

HS-SCCH Power Offset	O		9.2.2.18I	For FDD only
Measurement Power Offset	O		9.2.2.21C	For FDD only
HS-SCCH Code Change Grant	O		9.2.1.31L	
TDD ACK NACK Power Offset	O		9.2.3.18F	For TDD only

Range Bound	Explanation
maxnoofMACdFlows	Maximum number of HS-DSCH MAC-d flows
maxnoofPrioQueues	Maximum number of Priority Queues
maxnoofMACdPDUindexes	Maximum number of different MAC-d PDU SIDs

UNCHANGED TEXT IS REMOVED.

9.2.1.31IA HS-DSCH MAC-d Flows Information

The *HS-DSCH MAC-d Flows Information* IE is used for the establishment of HS-DSCH MAC-d flows for a Node B Communication Context.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
HS-DSCH MAC-d Flow Specific Information		*1..<maxnoofMACdFlows>*		
>HS-DSCH MAC-d Flow ID	M		9.2.1.31I	
>Allocation/Retention Priority	M		9.2.1.1A	
>Binding ID	O		9.2.1.4	Shall be ignored if bearer establishment with ALCAP.
>Transport Layer Address	O		9.2.1.63	Shall be ignored if bearer establishment with ALCAP.
Priority Queue Information		*1..<maxnoofPrioQueues>*		
>Priority Queue ID	M		9.2.1.49C	
>Associated HS-DSCH MAC-d Flow	M		HS-DSCH MAC-d Flow ID 9.2.1.31I	The HS-DSCH MAC-d Flow ID shall be one of the flow IDs defined in the HS-DSCH MAC-d Flow Specific Information of this IE.
>Scheduling Priority Indicator	M		9.2.1.53H	
>T1	M		9.2.1.56a	
>Discard Timer	O			
>MAC-hs Window Size	M		9.2.1.38B	
>MAC-hs Guaranteed Bit Rate	O		9.2.1.38Aa	
>MAC-d PDU Size Index		*1..<maxnoofMACdPDUindexes>*		
>>SID	M		9.2.1.53I	
>>MAC-d PDU Size	M		9.2.1.38A	
>RLC Mode	M		9.2.1.x	

Range Bound	Explanation
maxnoofMACdFlows	Maximum number of HS-DSCH MAC-d flows
maxnoofPrioQueues	Maximum number of Priority Queues
maxnoofMACdPDUindexes	Maximum number of different MAC-d PDU SIDs

UNCHANGED TEXT IS REMOVED.

9.2.1.38Ab MAC-hs Reordering Buffer Size for RLC-UM

The *MAC-hs Reordering Buffer Size for RLC-UM* IE indicates the portion of the ~~total~~ buffer ~~size defined~~ in the UE that can be used for RLC-UM traffic (i.e. for Priority Queues whose *RLC Mode* IE is set to "RLC-UM").~~capability minus the RLC AM buffer (see ref. [33] subclause 4.3).~~

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
MAC-hs Reordering Buffer Size			INTEGER (1..300,…)	Unit: kBytes And N kBytes = N*1024 Bytes. The Node B shall use this value to avoid the overflow of the MAC-hs reordering buffer.

UNCHANGED TEXT IS REMOVED.

9.2.1.x RLC Mode

The *RLC Mode* IE indicates the RLC Mode used for a Priority Queue.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
RLC Mode			ENUMERATED (RLC-AM, RLC-UM,…)	

UNCHANGED TEXT IS REMOVED.

9.2.2.18D HS-DSCH FDD Information

The *HS-DSCH FDD Information* IE is used for initial addition of HS-DSCH information to a Node B Communication Context.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
HS-DSCH MAC-d Flows Information	M		9.2.1.31IA	
UE Capabilities Information				
>HS-DSCH Physical Layer Category	M		9.2.1.31Ia	
~~>~~MAC-hs Reordering Buffer Size for RLC-UM	M		9.2.1.38Ab	
CQI Feedback Cycle k	M		9.2.2.21B	
CQI Repetition Factor	C-CQICyclek		9.2.2.4Cb	
ACK-NACK Repetition Factor	M		9.2.2.a	
CQI Power Offset	M		9.2.2.4Ca	
ACK Power Offset	M		9.2.2.b	
NACK Power Offset	M		9.2.2.23a	
HS-SCCH Power Offset	O		9.2.2.18I	
Measurement Power Offset	O		9.2.2.21C	

Condition	Explanation
CQICyclek	The IE shall be present if the *CQI Feedback Cycle k* IE is set to a value greater than 0.

UNCHANGED TEXT IS REMOVED.

9.2.3.5F HS-DSCH TDD Information

The *HS-DSCH TDD Information* IE is used for initial addition of HS-DSCH information to a Node B Communication Context.

IE/Group Name	Presence	Range	IE Type and Reference	Semantics Description
HS-DSCH MAC-d Flows Information	M		9.2.1.31IA	
UE Capabilities Information				
>HS-DSCH Physical Layer Category	M		9.2.1.31Ia	
~~>~~MAC-hs Reordering Buffer Size for RLC-UM	M		9.2.1.38Ab	
TDD ACK NACK Power Offset	M		9.2.3.18F	

9.3.4 Information Elements Definitions

```
--**************************************************************************
--
-- Information Element Definitions
--
--**************************************************************************

NBAP-IEs {
itu-t (0) identified-organization (4) etsi (0) mobileDomain (0)
umts-Access (20) modules (3) nbap (2) version1 (1) nbap-IEs (2) }

DEFINITIONS AUTOMATIC TAGS ::=
BEGIN

UNCHANGED TEXT IS REMOVED

-- ========================================
--  H
-- ========================================

UNCHANGED TEXT IS REMOVED

HSDSCH-FDD-Information ::= SEQUENCE {
    hSDSCH-MACdFlows-Information            HSDSCH-MACdFlows-Information,
    ueCapability-Info                       UE-Capability-Information,
    mAChs-Reordering-Buffer-Size-for-RLC-UM  MAChsReorderingBufferSize-for-RLC-UM,
    cqiFeedback-CycleK                      CQI-Feedback-Cycle,
    cqiRepetitionFactor                     CQI-RepetitionFactor            OPTIONAL,
    -- This IE shall be present if the CQI Feedback Cycle k is greater than 0
    ackNackRepetitionFactor                 AckNack-RepetitionFactor,
    cqiPowerOffset                          CQI-Power-Offset,
    ackPowerOffset                          Ack-Power-Offset,
    nackPowerOffset                         Nack-Power-Offset,
    hsscch-PowerOffset                      HSSCCH-PowerOffset              OPTIONAL,
    measurement-Power-Offset                Measurement-Power-Offset        OPTIONAL,
    iE-Extensions                           ProtocolExtensionContainer { { HSDSCH-FDD-Information-ExtIEs} }       OPTIONAL,
    ...
}

HSDSCH-FDD-Information-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

HSDSCH-TDD-Information ::= SEQUENCE {
    hSDSCH-MACdFlows-Information            HSDSCH-MACdFlows-Information,
    ueCapability-Info                       UE-Capability-Information,
    mAChs-Reordering-Buffer-Size-for-RLC-UM  MAChsReorderingBufferSize-for-RLC-UM,
    tDD-AckNack-Power-Offset                TDD-AckNack-Power-Offset,
    iE-Extensions                           ProtocolExtensionContainer { { HSDSCH-TDD-Information-ExtIEs} }       OPTIONAL,
    ...
```

```
}

HSDSCH-TDD-Information-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}


HSDSCH-Information-to-Modify ::= SEQUENCE {
    hsDSCH-MACdFlow-Specific-Info-to-Modify     HSDSCH-MACdFlow-Specific-InfoList-to-Modify     OPTIONAL,
    priorityQueueInfotoModify                   PriorityQueue-InfoList-to-Modify                OPTIONAL,
    mAChs-Reordering-Buffer-Size-for-RLC-UM             MAChsReorderingBufferSize-for-RLC-UM            OPTIONAL,
    cqiFeedback-CycleK                          CQI-Feedback-Cycle                              OPTIONAL,   -- For FDD only
    cqiRepetitionFactor                         CQI-RepetitionFactor                            OPTIONAL,   -- For FDD only
    ackNackRepetitionFactor                     AckNack-RepetitionFactor                        OPTIONAL,   -- For FDD only
    cqiPowerOffset                              CQI-Power-Offset                                OPTIONAL,   -- For FDD only
    ackPowerOffset                              Ack-Power-Offset                                OPTIONAL,   -- For FDD only
    nackPowerOffset                             Nack-Power-Offset                               OPTIONAL,   -- For FDD only
    hsscch-PowerOffset                          HSSCCH-PowerOffset                              OPTIONAL,   -- Fonly for FDD
only
    measurement-Power-Offset                    Measurement-Power-Offset                        OPTIONAL,   -- For FDD only
    hSSCCHCodeChangeGrant                       HSSCCH-Code-Change-Grant                        OPTIONAL,
    tDDAckNackPowerOffset                       TDD-AckNack-Power-Offset                        OPTIONAL,   -- For TDD only
    iE-Extensions                               ProtocolExtensionContainer { { HSDSCH-Information-to-Modify-ExtIEs} }   OPTIONAL,
    ...
}

HSDSCH-Information-to-Modify-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

UNCHANGED TEXT IS REMOVED

-- ==========================================
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-- ==========================================

UNCHANGED TEXT IS REMOVED

MAChsReorderingBufferSize-for-RLC-UM ::= INTEGER (10..300,...)
-- Unit kBytes

UNCHANGED TEXT IS REMOVED

-- ==========================================
--  P
-- ==========================================

UNCHANGED TEXT IS REMOVED

PriorityQueue-InfoList ::= SEQUENCE (SIZE (1..maxNrOfPriorityQueues)) OF PriorityQueue-InfoItem

PriorityQueue-InfoItem ::= SEQUENCE {
    priorityQueueId                     PriorityQueue-Id,
```

```
    associatedHSDSCH-MACdFlow           HSDSCH-MACdFlow-ID,
    schedulingPriorityIndicator         SchedulingPriorityIndicator,
    t1                                  T1,
    discardTimer                        DiscardTimer                OPTIONAL,
    mAC-hsWindowSize                    MAC-hsWindowSize,
    mAChsGuaranteedBitRate              MAChsGuaranteedBitRate                                  OPTIONAL,
    macdPDU-Size-Index                  MACdPDU-Size-Indexlist,
    rLC-Mode                            RLC-Mode,
    iE-Extensions                       ProtocolExtensionContainer { { PriorityQueue-InfoItem-ExtIEs} }         OPTIONAL,
    ...
}

PriorityQueue-InfoItem-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

PriorityQueue-InfoList-to-Modify ::= SEQUENCE (SIZE (1..maxNrOfPriorityQueues)) OF ModifyPriorityQueue

PriorityQueue-InfoItem-to-Add ::= SEQUENCE {
    priorityQueueId                     PriorityQueue-Id,
    associatedHSDSCH-MACdFlow           HSDSCH-MACdFlow-ID,
    schedulingPriorityIndicator         SchedulingPriorityIndicator,
    t1                                  T1,
    discardTimer                        DiscardTimer                                    OPTIONAL,
    mAC-hsWindowSize                    MAC-hsWindowSize,
    mAChsGuaranteedBitRate              MAChsGuaranteedBitRate                          OPTIONAL,
    macdPDU-Size-Index                  MACdPDU-Size-Indexlist,
    rLC-Mode                            RLC-Mode,
    iE-Extensions                       ProtocolExtensionContainer { { PriorityQueue-InfoItem-to-Add-ExtIEs} }  OPTIONAL,
    ...
}

PriorityQueue-InfoItem-to-Add-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}

UNCHANGED TEXT IS REMOVED

-- ========================================
--  R
-- ========================================

UNCHANGED TEXT IS REMOVED

RL-ID ::= INTEGER (0..31)

RL-Set-ID               ::= INTEGER (0..31)

RLC-Mode    ::= ENUMERATED {
    rLC-AM,
    rLC-UM,
    ...
}
```

```
Round-Trip-Time-IncrDecrThres ::= INTEGER(0..32766)

UNCHANGED TEXT IS REMOVED

-- ========================================
--  U
-- ========================================

UNCHANGED TEXT IS REMOVED

UE-Capability-Information ::= SEQUENCE {
    hSDSCH-Physical-Layer-Category          INTEGER (1..64,...),
    mAChs-Reordering-Buffer-Size            MAChsReorderingBufferSize,
    iE-Extensions                       ProtocolExtensionContainer { { UE-Capability-Information-ExtIEs } }        OPTIONAL,
    ...
}

UE-Capability-Information-ExtIEs NBAP-PROTOCOL-EXTENSION ::= {
    ...
}
```