TSG-RAN Working Group 3, meeting # 6 ***TSGR3#6(99)A07***

Sophia Antipolis, 23-27 August 1999

Agenda Item: 15.3 & 16.4

Source: Nokia

Title: **DCH priorities**

Document for: Approval

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1 Introduction

This contribution clarifies the use of the priority parameters in Iub/Iur signalling protocols.

2 Discussion

Two different classes of priorities are defined as part of the Radio Access Bearer attributes (text from [23.907]):

> **Traffic handling priority**
> Definition: specifies the relative importance for handling of all SDUs belonging to the radio access bearer compared to the SDUs of other bearers.
>
> *[Purpose: Within the interactive class, there is a definite need to differentiate between bearer qualities. This is handled by using the traffic handling priority attribute, to allow UTRAN to schedule traffic accordingly. By definition, priority is an alternative to absolute guarantees, and thus these two attribute types cannot be used together for a single bearer.]*
>
> **Allocation/Retention Priority**
> Definition: specifies the relative importance compared to other Radio access bearers for allocation and retention of the Radio access bearer.
>
> *[Purpose: Priority is used for differentiating between bearers when performing allocation and retention of a bearer, and the value is typically related to the subscription.*

As consequence, UTRAN shall be able to support two different priorities: the first one to be used in the setup/retention of transport channels for a given radio access bearer (this function is typically performed by the Admission Control algorithms), and the second one to be used for management of the allocated resources during the lifetime of the transport channel (this function is typically performed by Load or Congestion control algorithms).

In case of dedicated transport channel, SRNC (that is responsible of the mapping of RAB parameters into Transport Channel parameters) shall associate Allocation/Retention and Traffic Handling priority to each DCH.

Note that those priorities may be defined accordingly to other RAB attributes, especially the Traffic Class, and thus the DCH priorities are different from the RAB priorities.

The Allocation/Retention priority is used during the admission control and resource reservation in SRNC and DRNC, while the Traffic Handling priority is used for example for load (and overload) control in CRNC and Node B. Overload actions that result in temporary restriction of the resources allocated to a whole Radio Link are based on the Traffic Handling priorities of the DCHs composing the radio link.

The above mentioned priorities shall be inserted in the relevant NBAP/RNSAP messages to replace the existing 'DCH priority' parameter.

3 Proposals

- To include the parameter *'Allocation/Retention priority'* in RNSAP RL SETUP REQUEST, RL RECONFIGURATION REQUEST and RL RECONFIGURATION PREPARE messages (in [25.423]) as part of the "DCH parameters"). The parameter has the following description:

  Allocation/Retention priority

  This parameter indicates the priority level in the allocation and retention of DCH resources in DRNS.

- To include the parameter *'Traffic Handling priority'* in RNSAP/NBAP RL SETUP REQUEST, RL RECONFIGURATION REQUEST and RL RECONFIGURATION PREPARE messages (in [25.423] and [25.433]) as part of the "DCH parameters". The parameter has the following description:

  Traffic Handling priority

  This parameter indicates the priority level to be used during the lifetime of the DCH for temporary restriction of the allocated resources due overload reason

- The existing *DCH Priority* parameter shall be removed in all messages.

4 References

[23.907] 3GPP TR 23.907, *QoS Concept*

[25.423] RNSAP specification

[25.433] NBAP specification