TSG-RAN Working Group 3 meeting #6
Sophia Antipolis, France, August 23-27, 1999

TSGR3#6(99)856

Agenda Item: **15.2, 15.3**

Source: **Alcatel**

Title: **RNSAP "Cell Overload Information" procedure and message contents**

Document for: **Approval**

---

1 Introduction

At RAN WG3 Helsinki meeting, it has been agreed to include "Downlink Cell Power Load" and "Uplink Interference" as measurement types over the Iub (see TS 25.433 [2]).
In addition to that, there exist a RNSAP message CELL INFORMATION which is sent by a CRNC to another CRNC to indicate the load of a specific cell (see TS 25.423 [1]).

The present contribution proposes to reuse the existing RNSAP message CELL INFORMATION to indicate to Serving RNCs that a cell, controlled by the CRNC, is overloaded in the downlink and/or the uplink directions. This will allow the SRNCs to take actions on e.g. Connection Admission Control or on DCH transport channels.

2 Discussion

When a cell is overloaded in downlink and/or uplink, a measurement report is sent to the CRNC. This measurement report is sent via NBAP signalling.
This allows the CRNC to take appropriate actions on common transport channels (e.g. FACH, DSCH) since MAC-c and MAC-sh are in charge of the scheduling between the different user flows. However, no action can be done on DCHs since the scheduling is done at MAC-d layer, which is located in the Serving RNCs.

To allow feedback actions at SRNC level, it is proposed to use the existing RNSAP message CELL INFORMATION to inform a Serving RNC that a cell is overloaded. This message may be sent by the CRNC when local CRNC actions to decrease the cell load are not sufficient.

3 Proposal

It is proposed to use the existing LOAD INFORMATION message in the RNSAP protocol to inform the SRNC on the load of a cell controlled by the CRNC.

Proposal 1
It is proposed to modify the text and the figure in section 8.4.2 of TS 25.423 [1] as follows:

8.4.2 Load Information

With this procedure a Controlling RNC (CRNC1) informs another RNC ~~C~~(RNC2), which can act as serving or controlling, about the load in one or more cells under the RNC1~~its~~ control. When the CRNC informs SRNC(s), it only informs those which are using the cell(s) in question.
When the load information reporting criteria are met, CRNC1 sends to ~~C~~RNC2 the RNSAP LOAD INFORMATION message using the connectionless service of the signalling bearer. This message

contains information about the load in one or more cell (UL interference level and/or DL cell power load).
The load information reporting criteria may be internal CRNC1 criteria, or defined via O&M, or using the Load Information procedure.

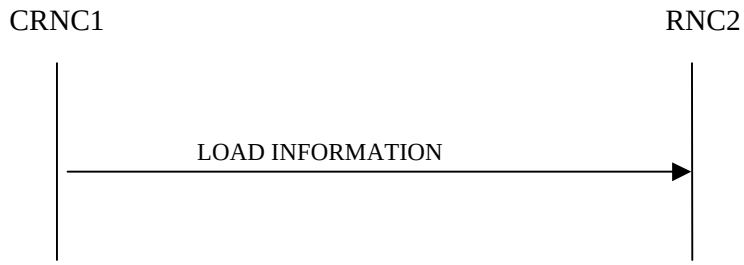

Figure 9-x: An example RNSAP message flow at I_{ur} interface for Load Information.

Proposal 2
It is proposed to modify the text of section 9.1.34 of TS 25.423 [1] as follows:

9.1.34 ~~9.1.34~~ LOAD INFORMATION

~~[Editor's note:~~

~~This message has no content described due to lack of contributions. Contributions are invited.]~~

Information element	Reference	Type
Message type		M
Transaction ID		M
CRNC-ID		M
Overloaded cell(s)		
Cell-ID ~~i~~		M
Related Transaction IDs		M
DL Cell Power Load (cell i)		M
UL Interference level (cell i)		M

4 References

[1] TS 25.423 RNSAP protocol
[2] TS 25.433 NBAP protocol