TSG-RAN Working Group 2 (Radio layer 2 and Radio layer 3) ***TSGR2#6(99)885***
Sophia Antipolis 16th to 20th August 1999

Agenda Item: 14.4

Source: Nokia

Title: Secondary reporting quantities in measurement reports

Document for: Decision

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1 INTRODUCTION

In this contribution it is proposed to add secondary reporting quantities to measurement reports.

2 SECONDARY REPORTING QUANTITIES

Measurement reports identified by a given measurement identifier must be unambiguously triggered by one and only one event or timer. In addition to the measurement type, which triggers the report, it would also be beneficial to be able to simultaneously report other types of measurement results. This is because RRM algorithms in the UTRAN can typically use different types of measured values for evaluating the radio conditions at a given point in time.

Examples of measurement combinations can be the following:

1. Event-triggered intra-frequency measurement report includes quality values for all reported radio links.

2. Periodical inter-frequency measurement report includes the Ec/I0 values for all cells in the active set in addition to the Ec/I0 values of the measured inter-frequency cells.

3. Traffic measurement report includes the Ec/I0 values of X best intra-frequency cells.

3 CHANGE REQUEST TO TS 25.331

3.1 CR to Section 10.1.2.1 MEASUREMENT CONTROL

Secondary measurement type	O			
CHOICE Secondary Measurement				
Intra-frequency				
Intra-frequency cell info	O			Measurement object
Intra-frequency measurement reporting quantity				
Secondary Intra-frequency measurement criteria				
Inter-frequency				
Inter-frequency cell info				Measurement object
Inter-frequency measurement reporting quantity				
Secondary Inter-frequency measurement criteria				
Inter-system				
Inter-system cell info	O			Measurement object
Inter-system measurement reporting quantity				
Secondary inter-system reporting criteria				
Traffic Volume				
Traffic volume measurement Object	O			
Traffic volume measurement reporting quantity				
Quality				
Quality measurement Object	O			
Quality measurement reporting quantity				
Secondary quality measurement criteria				

CHOICE *Secondary Measurement*	**Condition under which the given *Secondary Measurement* is chosen**
intra-frequency	if secondary measurement type=Intra-frequency measurement
inter-frequency	if secondary measurement type=Inter-frequency measurement
inter-system	if secondary measurement type=Intra-system measurement
traffic volume	if secondary measurement type=traffic volume measurement
Quality	if secondary measurement type=Quality measurement

3.2 CR to Section 10.1.2.2 MEASUREMENT REPORT

Information Element	Presence	Range	IE type and reference	Semantics description
Message Type	M			
Measurement Information Elements				
Measurement report information		1 to <maxMeasRepCount>		Send Measurement Report information for each measurement report in the message (Note 1)
Measurement identity number	M			
Measured Results	C MR required			
CHOICE event result	C event trigger			Note 1,2
Intra-frequency measurement event results				
Inter-frequency measurement event results				
Inter-system measurement event results				
Traffic volume measurement event results				
Quality measurement event results				
Measured results for secondary measurement	C SMR required			

Condition	Explanation
Event trigger	This element is only included in the message which is sent in event trigger reporting mode.
MR required	This information element is included by the sender only if indicated optionally by Reporting Quantity in Measurement Control
SMR required	This information element is included by the sender only if indicated optionally by secondary measurement control information in Measurement Control

Note 1: Whether it is possible to send multiple measurement results that are identified by different measurement identity numbers in the same Measurement Report is FFS. An alternative solution is to allowt only one measurement identity number per Measurement Report and concatenate different Measurement Reports in the RLC layer instead.

~~*Note 2: If it is possible to send many measurement results that are identified by different events in the same Measurement Report is FFS.*~~

3.3 CR to Section 10.2.7

The following additions are proposed to section 10.2.7. in [1].

10.2.7.x1 Secondary Intra-frequency measurement reporting criteria

The criteria of additional intra-frequency reports.

Information Element/Group name	Presence	Range	IE type and reference	Semantics description
Max number of reported cells	O			
Report active cells	O			Report the cells in the active set.

10.2.7.x2 Secondary inter-frequency measurement reporting criteria

Information Element/Group name	Presence	Range	IE type and reference	Semantics description
Max number of reported cells	O			

10.2.7.x3 Secondary inter-system measurement reporting criteria

Information Element/Group name	Presence	Range	IE type and reference	Semantics description
Max number of reported cells				

10.2.7.x4 Secondary quality measurement reporting criteria

Information Element/Group name	Presence	Range	IE type and reference	Semantics description
Max number of reported cells	O			
Report active cells	O			Report the measured results for cells in the active set.
Report triggering cells	O			Report the measured results for cells, which triggered an event in the primary measurement sequence.

10.2.7.x1 Measured results for secondary measurement

This element is the same as the Measured results element in section 10.2.7.36.

4 REFERENCES

[1] TS 25.331, v 1.2.0 1999-07, "Description of the RRC protocol", source: TSG RAN WG2.

[2] Tdoc TSGR2#6(99)720; "Final report of the email discussion group - Enhanced RRC message and IE tabular descriptions ", source: Rapporteur.