

**EVEREST****EVEREST IST-2002-001858****D20*****Final report on the evaluation of RRM/CRRM algorithms*****Contractual Date of Delivery to the CEC: 31.10.2005****Actual Date of Delivery to the CEC: 18.11.2005****Editor: Oriol Sallent (UPC)****Author(s): see list****Participant(s): UPC, KCL, PTIN, TID, TEL, TI****Workpackage: WP3****Est. person months: 34****Security: PU****Nature: Report****Version: 001****Total number of pages: 317****Abstract:**

This deliverable provides a definition and a complete evaluation of the RRM/CRRM algorithms selected in D11 and D15, and evolved and refined on an iterative process. The evaluation will be carried out by means of simulations using the simulators provided at D07, and D14

**Keyword list:** UTRAN, GERAN, WLAN, heterogeneous networks, RRM, CRRM

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## EXECUTIVE SUMMARY

The scope of this document is to present a wide range of studies in the field of RRM/CRRM strategies that have been developed in the framework of the IST-project EVEREST. RRM/CRRM solutions envisage an optimised utilisation of scarcely available radio resources for the support of mixed services within heterogeneous networks.

Initially, RRM aspects for different RATs are covered, since these are the pillars for the efficient development of common strategies. In particular, UTRAN, GERAN and WLAN have been covered, UTRAN being more extensively treated because of the larger number of dimensions involved (i.e. frequency, time, code and also power) in the radio resource management problem. Finally, CRRM mechanisms have been targeted and strengthened in order to provide consolidated views and solutions.

As a final report of EVEREST's activities on RRM and CRRM for the whole duration of WP3, this document intends to capture the different developments achieved from March 2004 to October 2005. For those aspects already included in previous deliverables (D11 "First report on the evaluation of RRM/CRRM algorithms", issued October 2004, and D15 "Report on the evaluation of RRM/CRRM algorithms", issued March 2005) only some relevant concepts and a few representative results are captured here, so as to maintain the self-contained nature in the present final report. Strategies and algorithms developed since March 2005 are described with a higher level of detail, so that these activities are suitably reported in an official deliverable. Thus, the extension devoted to every single topic covered in the following subsections is not necessarily indicative of its relevance for the whole EVEREST project.

The document is structured as follows. After an introduction in Section 1, Section 2 is devoted to RRM mechanisms and considerations for UMTS. Section 3 covers RRM for GERAN, while Section 4 is devoted to WLAN. Then, Section 5 is devoted to CRRM presentation and evaluation of the different proposed alternatives. Finally, Section 6 summarises the conclusions reached.

## Table of Contents

EXECUTIVE SUMMARY .....	V
<b>1 RRM IN A BEYOND 3G FRAMEWORK.....</b>	<b>1</b>
<b>2 RRM ISSUES FOR UMTS.....</b>	<b>2</b>
2.1 INTRODUCTION .....	2
2.2 A NEW FRAMEWORK FOR CAPTURING COUPLING AMONG CELLS.....	2
2.2.1 Introduction .....	2
2.2.2 Applicability example: Congestion control.....	3
2.3 INTEGRATED VOICE/DATA IN CDMA SYSTEMS FRAMEWORK .....	5
2.4 INDOOR TRAFFIC .....	8
2.4.1 Introduction .....	8
2.4.2 Results .....	8
2.5 TRAFFIC HOT-SPOTS .....	9
2.5.1 Introduction .....	9
2.5.2 Pilot Adjustment Algorithm: Downlink case .....	9
2.6 STATIC TRAFFIC.....	9
2.6.1 Results .....	10
2.6.2 Impact of mobility.....	11
2.7 REPEATERS.....	12
2.7.1 Repeaters usage in WCDMA systems .....	12
2.7.2 Analysed layout.....	12
2.7.3 Simulation results .....	12
2.8 MULTIPLE RF CARRIERS.....	14
2.8.1 Admission control, congestion control and coverage control.....	15
2.8.2 QoS measures .....	16
2.8.3 Assumptions and reflections .....	16
2.8.4 Methods .....	16
2.8.5 Simulation study .....	17
2.8.6 Conclusions .....	21
2.9 HIERARCHICAL CELL STRUCTURES.....	22
2.9.1 Cell selection/reselection criteria in HCS.....	22
2.9.1.1 Generalities .....	22
2.9.1.2 The mobility class evaluation .....	23
2.9.1.3 The cell-reselection algorithm.....	24
2.9.1.4 Some guide-lines for setting the cell-reselection parameters .....	26
2.9.1.5 Simulated layout .....	27
2.9.2 Capacity enhancement with HCS.....	32
2.9.2.1 Analysed layout .....	32
2.9.2.2 Simulation results.....	33
2.9.3 RRM and mobility issues in HCS idle mode.....	34
2.9.3.1 Introduction.....	34
2.9.3.2 Cell reselection criteria with HCS.....	34
2.9.3.3 Capacity analysis .....	39
2.9.3.4 Conclusions.....	42
2.9.4 Application of the derivatives framework to HCS.....	42
2.9.4.1 Frequency allocation schemes.....	43
2.9.5 Non-Real Time Packet Transmission for a Microcell (Hotspot) Embedded in CDMA Macrocell Systems 44	
2.9.5.1 Results and dicussion.....	45
2.10 TRANSPORT CHANNEL TYPE SWITCHING.....	47
2.10.1 Introduction .....	47
2.10.2 Bidirectional traffic model for the WWW service .....	47
2.10.3 Traffic measurements and TCTS algorithm .....	50
2.10.4 Main simulation inputs .....	53
2.10.5 Simulation results .....	55
2.10.5.1 DCH-only versus Transport Channel Type Switching comparison.....	55

2.10.5.2	TCTS active.....	62
2.10.6	Conclusions .....	68
2.11	ADMISSION CONTROL .....	69
2.11.1	Scenario description .....	69
2.11.2	Services, Users and Services&Users prioritization .....	70
2.11.3	Services prioritization study in an indoor scenario .....	70
2.11.3.1	Scenario description .....	71
2.11.3.2	Admission control strategies.....	73
2.11.3.3	Conclusions .....	77
2.12	DIFFSERV AWARE SCHEDULING .....	77
2.12.1	DiffServ Marking.....	77
2.12.2	Motivation of Color Aware RRM.....	78
2.12.3	Applicability example: Color aware link adaptation protocol.....	81
2.12.3.1	Proposed scheme .....	81
2.12.4	DiffServ aware RRM for CDMA .....	83
2.12.5	Applicability example: Color aware coverage control.....	86
2.13	HIGH SPEED DOWNLINK PACKET ACCESS.....	87
2.13.1	Scheduling methods for TCP traffic over HSDPA .....	88
2.13.2	Reference scheduling evaluations.....	89
2.13.2.1	Hybrid Automated Request .....	89
2.13.2.2	Scheduling .....	89
2.13.2.3	Results .....	90
2.13.3	Advanced scheduling evaluations .....	92
2.13.3.1	Introduction .....	92
2.13.3.2	Simulation assumptions.....	92
2.13.3.3	Performance metrics .....	97
2.13.3.4	Simulation results .....	98
2.13.3.5	Summary.....	102
2.13.4	Performance Enhancement for HSDPA.....	103
2.13.4.1	Biased Adaptive Modulation/Coding to Provide VoIP QoS over HSDPA .....	103
2.13.4.2	DiffServ-aware priority queuing improves IP QoS support on HSDPA .....	113
2.13.4.3	Supporting Heterogeneous Traffic in HSDPA .....	117
2.13.4.4	Code Multiplexing of Multiple Access Users in HSDPA .....	125
2.14	RAN SHARING .....	127
2.14.1	Simulation study .....	128
2.14.2	Multicell RAN Sharing.....	129
2.14.2.1	Introduction .....	129
2.14.2.2	Proposed sharing algorithms.....	130
2.14.2.3	Scenario Model.....	132
2.14.2.4	Results .....	133
2.15	LOCATION AWARE RESOURCE RESERVATION .....	134
2.15.1	Introduction .....	134
2.15.2	Resource Reservation Algorithm .....	136
2.15.3	Simulation model .....	138
2.15.4	Results .....	138
2.15.5	Conclusions .....	142
<b>3</b>	<b>RRM ISSUES FOR GERAN .....</b>	<b>142</b>
3.1	INTRODUCTION .....	142
3.2	ADMISSION CONTROL .....	143
3.3	VIDEO STREAMING OVER GPRS .....	145
<b>4</b>	<b>RRM ISSUES FOR WLAN .....</b>	<b>148</b>
4.1	INTRODUCTION .....	148
4.2	ADMISSION CONTROL FOR IEEE 802.11A/B/G .....	149
4.2.1	Analytical model to estimate the performance of MAC 802.11 DCF for real-time services (step 1) 149	
4.2.2	Capacity region for the WLAN hot-spot (step 2).....	150
4.2.3	Capacity region based Admission Control (step 3) .....	151
4.2.4	Validation of the analytical model for the performance evaluation of IEEE 802.11a/b/g WLAN.....	152
4.2.4.1	Introduction.....	152
4.2.4.2	Previous work .....	152
4.2.4.3	Overview of the Simulation work.....	153

4.2.4.4	Simulated scenarios .....	155
4.2.4.5	Results.....	156
4.2.4.6	Conclusions.....	164
4.3	ADMISSION CONTROL FOR IEEE 802.11E CONTENTION ACCESS.....	164
4.3.1	<i>Enhanced Distributed Admission Control Algorithm</i> .....	166
4.3.2	<i>EDAC performance evaluation</i> .....	170
4.3.3	<i>Conclusions</i> .....	174
4.4	SERVICE PRIORITY – QoS ENHANCEMENTS IN 802.11B.....	174
4.4.1	<i>Hierarchical Token Bucket</i> .....	174
4.4.2	<i>Comparison of the legacy DCF and DFS, DRRR service differentiation schemes</i> .....	175
4.5	SERVICE PRIORITY - QoS ENHANCEMENTS IN 802.11E.....	177
4.5.1	<i>Enhanced distributed channel access (EDCA)</i> .....	178
4.5.2	<i>Prioritisation in EDCA</i> .....	180
4.5.3	<i>Simulation Results</i> .....	180
4.5.4	<i>On the use of the EDCA Transmission Opportunity (TXOP) mechanism for improving the WLAN system performances</i> .....	182
4.5.4.1	<i>Influence of stations working at lower transmission rates on system performance</i> .....	182
4.5.4.2	<i>Implementation of TXOP mechanism for system performance improvement</i> .....	185
4.5.4.3	<i>Optimum TXOP limit for each type of traffic</i> .....	187
4.5.4.4	<i>Dynamic TXOP limit configuration</i> .....	190
4.5.4.5	<i>Packets fragmentation to enhanced QoS guarantees for high priority traffics</i> .....	193
4.5.4.6	<i>Conclusions</i> .....	194
<b>5</b>	<b>COMMON RRM</b> .....	<b>195</b>
5.1	INTRODUCTION: THE CRRM FRAMEWORK.....	195
5.1.1	<i>CRRM functional model</i> .....	196
5.1.2	<i>CRRM functionalities</i> .....	197
5.1.3	<i>CRRM implementation</i> .....	198
5.1.4	<i>Scope of this chapter</i> .....	199
5.2	RRM POLICIES IN HETEROGENEOUS NETWORKS .....	199
5.3	SERVICE-BASED RAT SELECTION POLICIES .....	201
5.3.1	<i>Introduction</i> .....	201
5.3.2	<i>Performance of basic policies</i> .....	201
5.3.2.1	<i>Simulation Environment</i> .....	202
5.3.3	<i>Radio network considerations</i> .....	206
5.3.3.1	<i>Combination of basic policies: n-complex policies</i> .....	207
5.3.4	<i>Vertical Handover</i> .....	210
5.3.4.1	<i>Loose and Tight Interworking between Vertical and Horizontal Handover</i> .....	211
5.3.5	<i>Conclusions</i> .....	223
5.4	LOAD BALANCING - BASED RAT SELECTION .....	224
5.4.1	<i>Introduction</i> .....	224
5.4.2	<i>Initial RAT selection</i> .....	225
5.4.2.1	<i>Performance evaluation</i> .....	227
5.4.3	<i>Scenario including vertical handover</i> .....	230
5.4.3.1	<i>Load and service-class distribution</i> .....	230
5.4.3.2	<i>Vertical Handover Rates</i> .....	232
5.4.3.3	<i>Performance evaluation of voice users</i> .....	233
5.4.3.4	<i>Performance evaluation of interactive users</i> .....	235
5.4.3.5	<i>Throughput performance</i> .....	235
5.4.3.6	<i>Admission probability</i> .....	236
5.4.4	<i>Conclusions</i> .....	236
5.5	PATH LOSS - BASED RAT SELECTION .....	237
5.5.1	<i>Introduction</i> .....	237
5.5.2	<i>Preliminary theoretical evaluation</i> .....	239
5.5.3	<i>Evaluation in a dynamic scenario</i> .....	244
5.5.3.1	<i>Initial RAT selection and vertical handover algorithms</i> .....	244
5.5.3.2	<i>Evaluation in a single service scenario</i> .....	245
5.5.3.3	<i>Multi-service scenario</i> .....	254
5.5.4	<i>Conclusions</i> .....	263
5.6	RAT PRIORITY LIST-BASED RAT SELECTION.....	264
5.6.1	<i>Introduction</i> .....	264
5.6.2	<i>Initial RAT Selection Algorithm</i> .....	264
5.6.2.1	<i>Considered initial RAT Selection Strategies</i> .....	267



5.6.2.2	Conclusions.....	270
5.6.3	<i>Study on sharing load and service prioritization</i> .....	270
5.6.3.1	Load sharing strategies: GERAN only can provide voice. ....	270
5.6.3.2	Admission Control based on Service Prioritization: GERAN only can provide voice. ....	271
5.6.3.3	Admission Control Based on Service Prioritization: GERAN can provide both, voice and data services.....	271
5.7	PERCEIVED TCP THROUGHPUT IN CRRM FRAMEWORK.....	275
5.7.1	<i>Simulation assumptions</i> .....	275
5.7.2	<i>Performance results</i> .....	278
5.8	IMPACT OF MULTI-MODE TERMINALS ON CRRM PERFORMANCE.....	282
5.8.1	<i>Introduction</i> .....	282
5.8.2	<i>Simulation results</i> .....	284
5.8.2.1	Throughput Performance.....	284
5.8.2.2	Delay Performance.....	285
5.8.2.3	Approach using EGPRS dedicated slots.....	286
5.8.3	<i>Conclusions</i> .....	288
<b>6</b>	<b>CONCLUSIONS.....</b>	<b>288</b>
	<b>APPENDIX A.....</b>	<b>299</b>
	<b>A.1 SIMULATION SETUP.....</b>	<b>299</b>
	<b>A.2 SIR CALCULATIONS.....</b>	<b>300</b>
	<b>A.3 CQI ESTIMATION.....</b>	<b>301</b>
	<b>APPENDIX B.....</b>	<b>302</b>
<b>7</b>	<b>REFERENCES.....</b>	<b>304</b>
<b>8</b>	<b>ABBREVIATIONS.....</b>	<b>313</b>