

Source: RAN WG3 Vice Chairman
Title: Report from WG3 vice chairman to TSG RAN
Document for: Discussion
Agenda Item: 5.3.1

1. GENERAL

Since the last TSG RAN, RAN WG3 has had two meetings, the first one having half of its time still dealing with R99 corrections and the second one mostly dealing with R4 aspects, although some time on corrections for R99 was still spent. Several ad hocs on R4 aspects such as IP transport, Q2630.2 aspects and UE positioning were held.

RAN WG3 has been mainly focusing on R99 correction and R4 aspects. Most of R4 WIs have been conducted to a satisfying level of completion except for:

- RAB support enhancement
- Some Worktask of RRM Optimisation on Iur/Iub. Some of them are cancelled, others are proposed to be continued in R5
- Improved support of inter-frequency/system measurements
- Hybrid ARQ
- Support for multiple CCTrCHs
- Improved common DL channel for CELL_FACH state
- Candidate enhancements for RL performance
- USTS (Iur/Iub aspects)
- Highspeed DL packet access study
- IP Transport in UTRAN

Around 200 CRs are proposed. 139 are R99 CRs and 61 are R4 CRs.

2. ORGANISATION AND WORKPLAN

Election were held in RAN3#19 for the chairman and Vice-chairmen position. The following representatives have been appointed for WG3:

- WG3 chairman: Martin Israelsson from Ericsson
- WG3 vice chairmen: Jim Miller from Interdigital and Chenghock Ng from NEC
- WG3 secretary: Carolyn Taylor, MCC

Most work has been done in the two subworking groups (SWGs):

- Iu SWG (Chairman: Atte Länsisalmi, Nokia)
- Iur/Iub SWG (Chairman: Gert-Jan van Lieshout, Ericsson)

Atte Länsisalmi resigned as Iu SWG chairman after the RAN3#19 meeting. So candidate was presented. It was thus decided that Alexander Vesely would chair the Iu WG for RAN3#20, but not for the following meeting. It becomes thus important that companies consider proposing a candidate for this position.

Meetings have been held and are planned on the following dates. It is to note that as much as possible, meeting dates has been harmonized with TSG RAN WG2 meeting dates to ease collocation and coordination.

| Meeting | Dates | Venue, host |
|-----------------|---|------------------|
| WG3#18 | 15 - 19 January, 2001 | Sweden, Ericsson |
| IP UTRAN ad hoc | 31 st January - 2 nd February, 2001 | Sweden, Telia |

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|---|---|--|
| QoS optimisation for AAL-2 and Migration to Modification procedure ad hoc | 6 th - 9 th January, 2001 | Tokyo, Japan, Japan Telecom |
| Support of R99 UE positioning methods over Iub and Iur ad hoc | 12 th -13 th February, 2001 | Finland, Nokia |
| WG3#19 | 26 Feb - 2 March, 2001 | UK, Lucent |
| <i>TSG RAN#11</i> | <i>14 - 16 March, 2001</i> | |
| WG3#20 | 02 - 06 April, 2001 | Beijing, China, CATT |
| GERAN SA2 RAN3 adhoc | 10 - 11 April | Finland, Nokia |
| WG3#21 | 21 - 25 May, 2001 | Pusan, Korea, Samsung |
| <i>TSG RAN#12</i> | <i>13 - 15 June, 2001</i> | |
| WG3#22 | 09 - 13 July, 2001 | ETSI amphitheatre (Carolyn to confirm) |
| WG3#23 | 27 - 31 August 2001 | Finland, Nokia |
| WG3#24 | 15 - 19 October 2001 | New York (tbc), USA, GBT |
| WG3#25 | 26 - 30 November 2001 | Japan, Fujitsu |

3. R99 TSs AND TRs

Please see the corresponding Tdocs containing the agreed CRs.

No specific open issue is to be reported.

4 R4 and R5 WORK ITEMS

Below is for each WI the status proposed by the WI rapporteur which as been agreed in RAN3:

5.1 Iu related work items, R3 leading

PS-domain handover for realtime services, TR25.936

The TR 25.936 is now mainly complete with the following:

- A status of the current standards in GSM and in UMTS R99
- A requirements section
- The detailed study of 2 possible solutions:
 - SRNC duplication
 - Core Network bi-casting

All the general principles of these solutions and the general impacts on the specifications, have been described in the TR. The open issues in the SRNC duplication solution have been solved:

- the target SGSN will know the IP address and the TEID of the GGSN from the old SGSN,
- the GGSN updating does not have to wait until after Relocation Complete to take place.
- The impact on the other group specifications (in particular 23.060) have been described
- A small summary table of the two solutions has been included.

As RAN3 was not required to make a decision, this more or less completes what RAN3 was supposed to provide to SA2 in order for them to proceed with one or another solution. A liaison was sent to SA2 at the RAN3#18 meeting since most of the study work in the TR was complete. The response liaison from SA2 indicates that one of the solutions from the TR has been adopted (SRNC duplication). This has been reflected during RAN3#19 in the agreement section of the TR. The CR to TS25.413 has been prepared for the RAN3#19 and approved during that meeting.

A further clarification that the study is applicable to GERAN as well as UTRAN, was also introduced at RAN3#19. The rapporteur for the TR raised the TR version to v0.5.0 during this meeting and proposed to have it updated to v2.0.0 after approval in RAN3 plenary.

RAN3 proposes that RAN raises this TR to v4.0.0.

RAB QoS negotiation, TR25.946

Following approval in TSG RAN, a technical report TR 25.946 titled " RAB Quality of Service Negotiation over Iu" was started with an outline as agreed in RAN WG3#14.

The main items worked with within this WI have been

- which RAB parameters to be negotiable at RAB establishment
- how to indicate from CN to RNC during RAB establishment that one or more RAB parameters may be negotiated

For the first item, the current status is that the RAB parameters *Maximum Bit Rate* and *Guaranteed Bit Rate* have been agreed to be negotiable and a CR has been produced in order to include this into TS 25.413 for Release 4. There are still discussions ongoing about the possible inclusion of some more parameters. In order to conclude this discussion, information has been requested from other WGs.

For the second item, three different principles for indication from CN to RNC have been discussed

- a value range is given for a negotiable parameter
- a number of discrete values are given for a negotiable parameter
- only an indication that a parameter is negotiable is given

A CR towards 25.413 for Release 4 has been produced that allows all these principles to be used.

What thus remains for this WI is the possible inclusion of some more parameters to be negotiable. If this will be done depends on information received from other WGs.

This TR as been raised to v2.0.0.

RAN3 proposes that RAN raises this TR to v4.0.0.

RAB Quality of Service Negotiation over Iu during Relocation

This work item was included in the Technical Report TR 25.946 titled "RAB Quality of Service Negotiation over Iu". This TR was first submitted at the RAN3 meeting #15. During that meeting (RAN3 #15), the extension to include this work item was discussed and it had been included in the study area. In the RAN3 meeting #18, it was agreed to include this work item as extension. In the RAN3 meeting #19, several contributions, which addressed to this work item, e.g. the whole message sequence chart and the needed CRs were discussed and agreed. A CR based on these agreements has been produced at the RAN3 meeting #19 to be applied against TS 25.413, v3.4.0 for incorporation of RAB Quality of Service Renegotiation over Iu during Relocation.

RAB Quality of Service Renegotiation over Iu, TR25.851

The Technical Report TR 25.851 titled "RAB Quality of Service Renegotiation over Iu" was generated to address this work item. This TR was first submitted at the RAN3 meeting #16 held in Berlin, Germany. During that meeting (RAN3 #16), subsequent RAN3 meetings (#17, #18, #19), and through e-mail reflector discussions, various aspects of RAB Quality of Service Renegotiation over Iu, e.g., Procedure Description, Message Definition, etc., were discussed and agreed. A CR based on these agreements has been produced at the RAN3 meeting #19 to be applied against TS 25.413, v3.4.0 for incorporation of RAB Quality of Service Renegotiation over Iu.

This TR as been raised to v2.0.0.

RAN3 proposes that RAN raises this TR to v4.0.0.

5.2 Iu related work items, others leading

TrFO / TFO, TR 25.953

Following approval of the WI in RAN#9 a TR 25.953 titled "Transcoder Free Operation (Release 4)" was started in RAN3#17 meeting.

The TR contains, among general descriptions to outline the system wide concepts of Transcoder Free operation, discussions for necessary enhancements of specifications under RAN WG3 control, in particular TS 25.413 and TS 25.415.

Work within RAN WG3 can be regarded as completed, as necessary CRs have been already produced and approved by the TSG RAN WG3 during RAN3#19 meeting.

This TR as been raised to v2.0.0.

RAN3 proposes that RAN raises this TR to v4.0.0.

RAB support enhancements

Following approval in RAN#7, a technical report TR 25.844 titled " Radio Access Bearer Support Enhancements" was started with an outline as agreed in RAN WG2#15 (R2-001872). A technical report TR 25.852 titled "Radio Access Bearer Support Enhancements for RAN3" has also been recently started with an outline as agreed in RAN WG3#19 (R3-011001).

The "Variable Iu frame formats and unequal error protection" topic is the RAN3 component of this work item (WI). **This topic of the WI will not be complete in REL4** as discussed below.

The initial outline of this TR was only recently started and then later agreed in RAN3#19. Within the RAN3 Iu SWG, R99 issues have had higher priority over Rel4 WI's thus not allowing time to be given to the Rel4 WI's until very recently.

There are still issues that need to be addressed by TSG SA and guidance given prior to being able to complete TSG RAN WG3's topic of this WI. A non-exhaustive list of these issues include: the termination point for MMoIP applications within the Core Network (CN) as referenced from the UTRAN, where the Transcoder is located within the CN, and how to address Unequal Error Protection within the UTRAN for Real Time PS services.

This TR has been raised to v0.1.0.

5.3 Iur/Iub related work items, R3 leading

RRM optimisation on Iur/Iub, TR25.935

The WI consists of 7 separate worktasks.

a. CONGESTION HANDLING OF DCH

a.a. General

Agreements have been reached on the main issues regarding this worktask. Corresponding CR has been agreed.

a.b. Agreed CR's

- CR339/25.423

a.c. Detected open issues

The following open issues were identified:

- Should also a TFCS/TFI based approach for limiting the rate be supported.
- Consider if further alignment to the outcome of the RAB QOS renegotiation WI is required.

a.d. Conclusion

3GPP RAN3 considers the worktask ready for inclusion in the release 4 specifications.

b. PROCEDURE PARALLELISM ON IUB/IUR

b.a. General

After studying this worktasks, the introduction of further parallelism is not considered to provide significant benefit.

b.b. Agreed CR's

none

b.c. Detected open issue

none

b.d. Conclusion

The worktask was cancelled without any impact on the specifications.

c. DPC RATE REDUCTION IN SOFT HANDOVER

c.a. General

Agreements have been reached on the main issues regarding this worktask. Corresponding CRs have been agreed.

c.b. Agreed CR's

- CR45/25.427
- CR320/25.423
- CR373/25.433
- CR387/25.433

c.c. Detected open issues

none

c.d. Conclusion

3GPP RAN3 considers the worktask ready for inclusion in the release 4 specifications.

d. INTRODUCTION OF COMMON MEASUREMENTS OVER IUR

d.a. General

Agreements have been reached on the main issues regarding this worktask. Corresponding CRs have been agreed.

d.b. Agreed CR's

- CR12/420
- CR323/423

d.c. Detected open issues

none

d.d. Conclusion

3GPP RAN3 considers the worktask ready for inclusion in the release 4 specifications.

e. EXTENSION OF RADIO INTERFACE PARAMETER UPDATE PROCEDURE

e.a. General

After studying this worktasks, it was no longer consider addressing a specific issue but rather a solution for possible future problems.

e.b. Agreed CR's

none

e.c. Detected open issue

none

e.d. Conclusion

The worktask was cancelled without any impact on the specifications.

f. SEPARATION OF RESOURCE RESERVATION AND RADIO LINK ACTIVATION

f.a. General

Insufficient input was received to finalise this worktask.

f.b. Agreed CR's

none

f.c. Detected open issue

none

f.d. Conclusion

It is proposed to continue the work on this workitem for inclusion in the release 5 specifications.

g. TRIGGERING OF THE COMMON TRANSPORT CHANNEL RESOURCES INITIATION PROCEDURE BY DRNC

g.a. General

After studying this worktasks, the introduction of this worktask is not considered to provide significant benefit.

g.b. Agreed CR's

none

g.c. Detected open issue

none

g.d. Conclusion

The worktask was cancelled without any impact on the specifications.

5.4 Iur/Iub related work items, others leading

Low chiprate TDD option, Iur/Iub aspects, TR25.937

At RAN#10, the Technical Report TR 25.937 "Low chip rate TDD, Iub/Iur protocol aspects" was presented from RAN WG3 to RAN for information in version 0.3.2. The report was noted.

At R3#19 meeting, Feb 26 - March 2, 2001, the Technical Report TR 25.937 "Low chip rate TDD, Iub/Iur protocol aspects" has been raised into version 2.0.0, and this version will be submitted to TSG RAN#11 for approval.

In addition, six Change Requests for the RAN WG3 specifications 25.401, 25.402, 25.425, 25.427, 25.430, 25.435 , two Change Requests for RAN WG3 specification 25.433 and one Change Request for RAN WG3 specification 25.423 have been approved at RAN3#19 meeting.

These Change Requests will be submitted from RAN WG3 to RAN, related to the Work Item "Low chip rate TDD,

Iub/Iur protocol aspects", they are the basis for inclusion of low chip rate TDD option in the Release 4 versions of the RAN WG3 Technical Specifications.

No remaining open issues have been identified.

Based on the status of the TR 25.937, and based on the approved CRs to the RAN WG3 specifications, it is proposed to consider this Work Items for Release 4 completed.

This TR as been raised to v2.0.0.

RAN3 proposes that RAN raises this TR to v4.0.0.

UE positioning in UTRA FDD, TR 25.850

For the TSG RAN WG 3 work item LCS1-UEpos-IubIur CRs listed below were provided to R3#19 meeting for approval according to received agreements listed in the TR 25.850 UE positioning in UTRAN Iub/Iur protocol aspects v.0.3.1 chapter 7:

- *TS 25.433* UTRAN Iub Interface NBAP Signalling
 - CR 374 'Introduction of Information Exchange procedures over Iub';
 - CR 372 Introduction of the UTRAN-GPS and SFN-SFN timing measurement in NBAP;
 - CR 381 Introduction of the network configurable idle periods for OTDOA UE Positioning function
- *TS 25.423* UTRAN Iur Interface RNSAP Signalling
 - CR 328 'Introduction of Information Exchange procedures in RNSAP';
 - CR 327 Introduction of the Common Measurement Procedures in RNSAP
- *TS 25.420* UTRAN Iur Interface General Aspects and Principles
 - CR 14 Introduction of SCCP Handling for Common Measurements and Information Exchange on Iur

The latest revisions of these CRs are going to be approved during the R3#19 meeting and will be provided to TSG RAN#11 for final approval.

For the OTDOA radio interface timing measurement the work has been progressed based on the following assumptions due the lack of the RAN WG1 definition of UTRAN SFN-SFN Observed Time measurement and RAN WG4 definition of UTRAN SFN-SFN Observed Time measurement report mapping and accuracy requirement:

- Working assumption within RAN WG3 is that the SFN-SFN Observed Time difference is defined as in LS-R1-(01)-0147. This needs to be confirmed by RAN1 specification.
- Working assumption in RAN WG3 is that the SFN-SFN Observed Time Difference values are between – 20980 and +20979. This needs to be confirmed by RAN4 specification.

The LCS1-UEpos-IubIur WI can be consider as completed and it is proposed to close this WI with the additional note concerning OTDOA UP method. There is need to check that RAN WG 3 has been worked based on the correct working assumptions for the UTRAN SFN-SFN Observed Time difference measurement for OTDOA UP method . This need to be checked form the up coming RAN 1 and RAN 4 specifications and corrective CRs are invited for the next RAN WG3 #20 meeting if RAN WG3 has been worked based on wrong working assumptions.

Furthermore contributions are invited for the next RAN WG3 #20 meeting to solve the open issues for OTDOA radio interface timing measurements SFN-SFN Observed Time Difference and $T_{\text{UTRAN-GPS}}$ (UTRAN GPS Timing of Cell Frame for LCS) listed below.

Open Items for OTDOA radio interface timing

Following open items are identified:

1. The maximum number for measured neighbouring cell in TDD mode of operation is FFS in reference [8].
2. Can the GSM cells be measured as neighbouring cells for UE positioning.
3. Mapping and accuracy of the SFN-SFN Observed Time Difference UTRAN measurement. Is there a need to report the accuracy of this measurement?
4. Accuracy of the $T_{\text{UTRAN-GPS}}$ UTRAN measurement.

This TR as been raised to v2.0.0.

RAN3 proposes that RAN raises this TR to v4.0.0.

Improved support of inter-frequency/system measurements

R1 leading. No activity in R3.

Hybrid ARQ, TR25.837

No progress has been made on this WI since last RAN meeting. No contribution has been submitted

Support for multiple CCTrCHs

R2 leading. No activity in R3.

Node B synchronisation for TDD (Iur/Iub aspects), TR25.838

TR 25.838 V2.0.0 was approved by the RAN3#19.

The following CR's were approved by the working group that introduces Node B synchronization function:

| 3G TS/TR | Title | CR number |
|--------------|--|-----------|
| 3G TS 25.402 | Introduction of Cell Synchronisation for TDD | CR016 |
| | Synchronisation port signal extension | CR017 |
| 3G TS 25.433 | NBAP Procedure modifications due to cell synchronisation | CR361 |
| | Introduction of NBAP Cell Synchronisation function for TDD | CR360 |

This WI is completed from RAN3 perspective.

RAN3 proposes that RAN raises this TR to v4.0.0.

Terminal power saving features (Iur/Iub aspects), TR25.938

TR 25.938 "Terminal Power Saving Features (Iur/Iub Aspects)" aimed to the discussion on the WI "Terminal Power Saving Features" in RAN WG3 was presented at RAN#9 meeting as version 0.1.0. RAN WG3#17 meeting has updated TR 25.938 as version 0.1.1 with text proposal containing requirements and signaling in Iur and Iub, and TR 25.938 v0.1.1 was presented to RAN#10 meeting for information.

At the previous RAN WG3#18, TR 25.938 was approved as version v0.2.0 and additional text proposal was approved to be added in the TR.

At the RAN3#19 meeting, TR25.938 was finally approved as version v2.0.0 to be raised to v4.0.0 at RAN#11 meeting. Gating has been proposed as a solution of this WI and the RNSAP and NBAP signalling support has been discussed and finally approved at RAN3#19 meeting.

This TR as been raised to v2.0.0.

RAN3 proposes that RAN raises this TR to v4.0.0.

DSCH Power Control Improvement in SHO, TR 25.849

During RAN3 #19 meeting, TR 25.849 DSCH power control improvement in Soft Handover was approved as v2.0.0.

RELATED SPECIFICATION NUMBER AND APPROVED CR NUMBER

| Spec. # | CR # | Tdoc # |
|----------|-------|-----------|
| TS25.423 | CR310 | R3-011038 |
| TS25.433 | CR362 | R3-011037 |

Because currently TR is stable and necessary CRs are approved, it is proposed to close this work in WG3.

RAN3 proposes that RAN raises this TR to v4.0.0.

Improved common DL channel for CELL_FACH state

Study item, R2 leading. No activity in R3.

Candidate enhancements for RL performance (R1 leading)

Study item, R1 leading. No activity in R3.

USTS (Jur/Iub aspects), TR25.839

Study item, R1 leading. No activity in R3

Highspeed DL packet access study

Study item, R2 leading. No activity in R3.

5.5 General UTRAN work items

QoS optimization for AAL2 connections (O.2630 CS2), TR 25.934

TSG-RAN WG3 is the leading and only the involved working group for the work item.

From the last TSG RAN#10, RP-000533 “LS (ITU-T) on Interpretation of Link characteristics parameter (ITU-T)” was forwarded to TSG-RAN WG3 for consideration. It was recognized that the issue does not affect on the work item work.

The set of outputs for the work item is ready to be finally approved at TSG RAN#11, 13th – 16th March 2001. If the outputs are approved at TSG RAN#11, the work item is completed.

Output documents of TSG-RAN WG3#19 meeting, 26th February – 2nd March 2001:

| | |
|------------------|---|
| WI sheet | to be finally approved at TSG RAN#11 |
| TR 25.934 | V2.0.0 proposed to be raised to V4.0.0 at TSG RAN#11 |
| CRs | to be approved at TSG RAN#11 |

IP transport in UTRAN, TR 25.933

The work status is summarised in the following table. The numbering of the milestones correspond to the TR section numbering.

| Milestone | Status |
|--|---|
| Requirements definition (5) | Almost complete: wait for response from SA3 on security aspects. |
| External Standardisation (6.1) | Not an issue anymore since no new protocol is foreseen to be standardised by external standardisation bodies. |
| User Plane (6.2) | Study area completed. Partly agreed (No multiplexing above IP). |
| QoS Differentiation (6.3) | Study area completed. Agreed. |
| Transport network bandwidth utilisation (6.4) | Study area completed. Agreements required. |
| User plane transport signalling (6.5) | Study area completed. Agreements required. |
| Layer 1 and Layer 2 independence (6.6) | Study area almost completed. Agreements required. |
| Radio Network Signalling Bearer (6.7) | Study area started. Agreements required. |
| Addressing (6.8) | Study area completed for Node addressing and RNL flow identification. Principles agreed. |
| Transport Architecture and routing aspects (6.9) | Completed. |
| Backward compatibility with R99/ Coexistence with ATM nodes (6.10) | Study area almost complete. No agreements yet. |
| Synchronisation (6.11) | Not started |
| Security (6.12) | Study area started. RAN3 waits for SA3 response on security aspects – the remaining work depends on SA3 answer. |
| Iu-cs/Iu-ps harmonisation (6.13) | Study area started. No agreements yet. |

| | |
|------------------|--|
| Ipv6 versus Ipv4 | The choice of Ipv6 versus Ipv4 still remains to be done. |
|------------------|--|

Most of study areas are almost complete, but the number of agreements is still low. A rough estimation of the remaining work leads to raise the TR to version 1.0.0

It is proposed to continue the work on this work item for inclusion in the release 5 specifications.

Transport bearer modification procedure on Iub, Iur, and Iu

After the last TSG RAN#10, it was proposed and agreed at TSG-RAN WG3 to change the work item title to “Transport bearer modification procedure on Iub, Iur, and Iu” which indicates the object of the modification procedure.

The set of outputs for the work item is ready to be finally approved at TSG RAN#11, 13th – 16th March 2001. If the outputs are approved at TSG RAN#11, the work item is completed.

Output documents of TSG-RAN WG3#19 meeting, 26th February – 2nd March 2001:

WI sheet to be finally approved at TSG RAN#11

TR 25.954 V2.0.0 proposed to be raised to V4.0.0 at TSG RAN#11

CRs to be approved at TSG RAN#11