TSG-RAN Working Group 2 (Radio L2 and Radio L3) **TSGR2#5(99)511**
Sophia Antipolis 5 - 9 July 1999

Agenda Item: 4.1

Source: **Temporary secretary**

Title: Approved minutes of WG2 meeting #4,
                    Berlin 25 - 28 May 1999, v. 1.0

Document for: Information

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1 Opening of the meeting

The chairman of the group, Denis Fauconnier, opened the meeting. On behalf of the host, Siemens AG, Mr. Armin Sitte welcomed the group to Berlin and addressed practical matters related to meeting arrangements. A social activity was announced for Wednesday evening, 19.00 h.

2 Approval of the agenda

The closing time for the meeting on Friday was changed to 17.30 h, as announced by email.
With this change the agenda Tdoc R2-99349 was approved.
Agenda item 6.3 'Ciphering/security mechanism and procedures' will be handled as a joint meeting between RAN WG2 and SA WG3 on Tuesday afternoon.

After the discussion related to agenda item 6.4 (random access procedure) a split of the meeting into separate adhoc groups was discussed.
The chairman stated that completion of TS 25.302 is one of the most critical issues. Currently there is no value for WG1. Nothing is really included that can be approved.
The chairman proposed to establish three parallel adhoc groups in the afternoon of meeting day 3:
1)   TS 25.302 (agenda item 6.1)
2)   Idle mode (agenda item 8)
3)   RLC specification (agenda item 9.1)
After discussion the proposal was accepted with the agreement that each group should made clear reports of their results to the WG2 plenary.

3 Appointment of secretary

The chairman noted that a new permanent secretary (a member of ETSI support team) will be assigned at earliest in August. No person has yet been nominated.
For this meeting Wolfgang Granzow from Ericsson, acted as temporary secretary.

4 Approval of past activities

4.1 Approval of previous minutes

R2-99351 (version 0.3)
Two comments were given by CSELT: Tdoc 253, The sentence "All functions have to be supported by UE…" was not completely removed, it was kept ffs. Sec. 10, RRM e-mail discussion group is missing in the list. Approved with small changes. Final version will be issued as R2-99352.

4.2 Approval of permanent documents

R2-99353   3GPP TS 25.301: Radio Interface Protocol Architecture, v. 3.0.1 (Editor)
Version as approved by RAN with editorial corrections included. The document was approved.

R2-99354   3GPP TS 25.302: Services provided by the Physical Layer, v. 2.0.1 (Editor)
It was agreed to remove UE identification related entries from the list of transport channel characteristics in Sec. 7.2. With this change the document was approved.

R2-99355   3GPP TS 25.303: UE Functions and Interlayer Procedures in Connected Mode, v. 2.0.0 (Editor)
The editor noted problems due to Word text processor conversion done by the ETSI support team. The document was approved.

R2-99356   3GPP TS 25.304: UE Procedures in Idle Mode, v. 1.0.1 (Editor)
Only small editorial changes had been done to the document. These were presented by the editor and the document was approved.

R2-99357   3GPP TS 25.321: Specification of MAC Protocol, v.2.0.1 (Editor)
As presented to RAN meeting #3 with small editorial corrections included.
Ericsson asked whether the Appendix should be removed from the document. The editor replied that a respective change proposal (R2-99470) will be presented at agenda item 6.8.
The document was approved.

R2-99358   3GPP TS 25.322: Specification of RLC Protocol, v. 1.0.0 (Editor)
Ericsson announced that a CR has been prepared for Agenda item 9.1.
The chairman noted that all changes should be visible with change bars in permanent documents presented for approval.
The document was approved.

R2-99359   3GPP TS 25.331 RRC Protocol Specification, v.1.0.1 (Editor)
Only small editorial corrections after RAN meeting #3 were included.
The document was approved.

R2-99360   3GPP TS 25.921: Guidelines and Principles for protocol description and error handling, v.1.0.0 (Editor)
No change since the last meeting.
The document was approved.

R2-99361   3GPP TR 25.922 V0.1.2: "Radio Resource Management Strategies", v.0.1.2 (Editor)
The editor noted that no comments have been received on the mail reflector. He stated that he has included new text with revision bars that was presented at the last WG2 meeting, which however was not really discussed yet. It was decided that this version cannot be approved now.
The treatment of this document was therefore moved to agenda item 7. The editor was requested to present a version v0.1.1 for approval with the new text removed.

R2-99379   3GPP TR 25.922 v011: Radio Resource Management Strategies (CSELT)
Version as presented to the RAN meeting #3. Figure 2 was missing in the printed version.
The document was approved.

R2-99363   3GPP TR 25.925 V0.0.1: "Radio Interface for Broadcast/Multicast Services" (Editor)
Document consists only of the 3GPP template since the scope of the document is not agreed yet. A proposal on the scope and document structure will be presented at agenda item 7.4 by the editor.
Incorrect document number is used in the title. The correct document number is TR 25.925.
The document was noted.

4.3 Reports & liaisons from other groups

Report from RAN#3 (chairman)
The chairman presented a brief summary of the RAN meeting #3 decisions:

New document numbers have been allocated to all WG2 permanent documents.
Only TS 25.301 was approved and version raised to 3.0.0. It is now under revision control of TSG RAN. The other WG2 specifications presented for approval have been endorsed. The MAC protocol specification, TS 25.321, is now slightly delayed. It shall be presented to RAN meeting #4 in June for approval.

R2-99365   LS on ongoing work in T2 SWG5 – Multi-mode terminals (TSG T2)
The interpretation in WG2 of 'multi-mode' was that it shall cover TDD, FDD, and GSM.
It was agreed that WG2 shall inform T2 on progress on multi-mode continuously.
The LS was noted.

R2-99366   Report of the current status on terminal capabilities (TSG-T2)
Request from WG2 clarification on whether 'baseline implementation capabilities' are optional or mandatory.
The editor (Motorola) of the previous LS from WG2 to TSG-T2 stated that the WG2 interpretation of 'baseline implementation capabilities' was that everything was regarded as mandatory, while the group is still working on multi-mode capabilities. A liaison will be sent back clarifying this (reply: R2-99463, drafted by Motorola).

R2-99367   Agreed changes to 23.20 on flexible use of Iu (TSG-S2)
The LS was interpreted that a core network discriminator shall be used to route message to the desired core network domain.
The LS was noted.

R2-99368   Liaison statement to TSG RAN WG2 and WG4 on monitoring of UTRA FDD cells (TSG RAN WG1)
Ericsson (Pontus Wallentin) stated that other measurements such as SIR and pathloss may also be used.The chairman asked whether these measurements are restricted to current cell.
Pontus Wallentin replied that SIR and pathloss measurements can be used for handover as well, and that such measurements are now included anyway in the WG2 documentation.
Nokia stated that no conclusion has yet been drawn in WG2, all measurements are only ffs items, which are recommended to WG1 to investigate feasibility.
The chairman stated that no LS has been sent to WG1 yet.
Pontus Wallentin stated that input documents to this issue from Ericsson are provided for this meeting.

The document was noted. It was concluded that a reply is needed. An LS should be sent back when some conclusion has been drawn in WG2, at least an LS stating that the work is underway.

Decision (AI 10, day 4): Steve Barrett (Motorola) was assigned to provide a reply, based on present content of TS 25.331, stating the current status of the work, and stating that parameters are preliminary. The LS shall be sent out on Monday to WG1, without review issued as Tdoc R2-99504.

R2-99369   Liaison statement to WG2 on additional CRCs (TSG RAN WG1)
Asking WG2 opinion on CRC length. At least with respect to speech service to be considered.
The LS was noted. Reply needed.

Decision (AI 10, day 4): The updated TS 25.302, R2-99487, shall be sent to WG1 with a short cover page provided by the editor (chairman).

R2-99370   Liaison statement to WG1 on clarification of Open loop power control in the uplink (TSG RAN WG4)
It was clarified that RRC will be involved. However no algorithm is yet defined in WG2.
The LS (sent for information to WG2) was noted.

R2-99371   LS to WG1 on clarification on PC step sizes in the closed loop power control (TSG RAN WG4)
LS from WG4 sent to WG1, and for information also to WG2.
It was agreed that an LS could be written, stating what has been done in WG2 so far (essentially nothing has been done in detail so far).
The chairman stated that he will try to assign someone in the break for preparing a reply.

The LS was noted.

R2-99372 LS on Future definition of UE power classes (TSG RAN WG4)

The LS states power classes that have been defined in WG4 for FDD.
The LS was noted.

R2-99373 LS on Feasibility of the CPCH Scheme for FDD proposed by GBT (TSG RAN WG1)

The LS states that the CPCH seems feasible from a L1 perspective.
Philips asked about the meaning of "seems feasible", since it is used twice whether this term is used intentionally.
GBT stated that the CPCH *is* feasible, that there is not any issue
The chairman clarified it means that that it is feasible unless proven otherwise.
The LS was noted.

R2-99377 Answer for LS regarding the feasibility study for addressing mechanisms for the MAC protocol (TSG RAN WG3)

Alcatel asked about the meaning of 'decodable for the CRNC', whether this shall be interpreted that there is less protection, i.e. no RLC.
The chairman stated that either only routing information is extracted, or the entire message shall be interpreted.
Nokia stated that no RLC is needed, transparent mode can be used.
The chairman stated that there is no problem for small amount of data.
It was concluded that WG2 can use addressing mechanism what it wants. The issue was left to the respective agenda point. The LS was noted.

R2-99422 Reply to TSG RAN WG2 Liaison Statement on Hybrid ARQ Type II/III (TSG RAN WG3)

Asking WG2 whether Hybrid ARQ is necessary to include in release 99.
Interdigital commented that there is no document explaining signalling requirements.
The chairman summarised that concerns to have HARQ in release 99 are raised not only in WG3, also in WG1.
It was agreed to provide a reply. Content depends on progress on this issue during this meeting
The LS was noted.

Discussion (AI 10, day 4):
The chairman asked for opinions whether HARQ should be included into release '99. Siemens stated preferably yes, but it is not regarded to be a strict requirement.
After some discussion Siemens expressed that it understands the concerns in WG2. HARQ can be left out from the initial release, but further work should not be prevented

Decision: An LS should be written that states, WG2 also see problems to include it in release 99, work will continue and other groups will be kept informed on progress. The aim in WG2 is to have HARQ included in release 2000. The reply R2-99505 will be drafted by Siemens.

R2-99425 LS to TSG RAN WG2 on Common Transport Channel management over Iur (TSG RAN WG3)

The LS requests for comments by WG2 on assumptions of WG3 and provision of detailed interaction between MAC-d/-c/-sh over Iur.
Alcatel commented that a reply can be taken from TS 25.321, which is already available and very much as described in the LS by WG3.
Interdigital commented that the involvement of logical channels on top of MAC-d should also to be included. It was also mentioned that a proposal by Interdigital is available how this can be done.
The LS was noted.

Decision: Reply will be drafted by Alcatel as R2-99492.

R2-99458 Answer to liaisons from T1P1.5 on LCS architecture (ETSI SMG12 and 3GPP S2)

It was concluded that the WG2 report TR 25.923 on location services is fully in line with UMTS 23.110. All LCS related calculations should be located inside UTRAN. The WG2 TR can be continued based on the present assumptions.

The LS was noted.

R2-99459 Liaison statement to RAN WG2 on the possibility of having Multi-carrier Cells (3GPP TSG RAN WG3)

Nokia expressed concerns regarding handover measurements in case of multi-carrier cells.

The chairman stated that it is unclear what is meant with BCCH, logical or physical channel.

Conclusion: A reply should also be sent to WG1. More discussion is needed at this meeting.

A procedure for intracell interfrequency handover needs to be specified.

The LS was noted.

Discussion (AI 10, day 4):

Nokia commented that WG2 should not give positive answer on this aspect now.

The chairman stated that WG2 should not exclude that feature, but would leave it to WG1 to consider it further.

Decision: Not exclude multi-carrier cells for now, not necessary full broadcast info needs to be duplicated on each carrier. The final decision will depend on the feasibility study in WG1, and especially with respect to cases for handover measurements.

The reply R2-99506 shall be drafted by Ericsson.

R2-99460 Liaison statement to WG2 on FACH rates (3GPP TSG RAN WG1)

Stating that the lowest spreading factor for CCPCH (supporting FACH) should be 64 or 32, multiple physical channels shall be used in case higher rates are needed.

The LS requests for opinion of WG2 on the maximum rate carried by FACH.

Decision: Ericsson was assigned to draft a reply, R2-99483.

R2-99461 Liaison regarding the feasibility of the USCH for FDD (3GPP TSG RAN WG1)

Reporting that USCH is feasible from WG1 perspective. Steve Barrett (Motorola) referred

to an e-mail sent on the reflector that Motorola is willing to postpone the introduction of USCH and not to include it into release 99 for FDD.

The LS was noted.

The chairman welcomed the Motorola offer to postpone the USCH for FDD since this relieves WG2 and helps to keep the time plan.

R2-99469 Liaison Statement on Access Cell Selection (TSG RAN WG1)

The LS includes a specific access cell selection algorithm proposed by Motorola in the WG1 RACH Adhoc. The LS and attached WG1 contribution were presented by Steve Barrett (Motorola).

Nokia asked whether the proposed concept is optional or mandatory.

Motorola replied it is still under discussion in WG1, but it would be applied in every cell.

The chairman commented that the proposal has impact on the scheme for ranking of cells, question would be how often parameters need to be broadcast.

CSELT noted that there is another proposal R2-99462 available addressing these issues (this contribution was then moved from AI 7.2 to AI 8, idle mode adhoc meeting).

Philips asked about uplink interference law, time scale, how it is measured, impact of number of RACH accesses.

Motorola replied that uplink interference is not a RACH problem, the total interference is measured.

The chairman commented that the scheme is part of power management, for every cell the available power needs to be known. Question is how averaging is done, how fast it is needed to be updated.

Decision: Further discussion in idle mode adhoc group, AI 8.

R2-99456 LS on Security Functionality in RAN (3GPP SA WG3)

The LS was presented by SA3 member Tim Wright (Vodafone).

He stated that the LS was written by Mike Walker, chairman of SA3.

The LS was noted, and shall be taken into account in the joint meeting WG2 and SA3.

5 Results of e-mail discussions

R2-99388   Report from the methodology email discussion group (Rapporteur, Nokia)
The chairman commented that there is no agreement yet that ASN.1 shall be used for all protocols. Everything is in the same state as at previous meeting. The chairman summarised that WG2 has to investigate concrete proposals for each protocol. The report was noted.

R2-99376   Results from the RRC procedures ad-hoc group (Rapporteur, Ericsson)
NTT DoCoMo asked regarding Fig. 1, why RRC Connection Release message is transmitted in ack mode, whether it should be in unacknowledged mode.
Decision: After some discussion it was decided that an 'ffs' should be added, on whether ack or unack mode shall be used.

Alcatel commented that there was also a general discussion on what should be in TS 25.303 and what in TS 25.331. This issue should also be resolved.

It was clarified that the term 'DPCCH gating' in the Table Ref. 10 on page 2 refers to discontinuous DPCCH transmission.

Nokia asked if regarding cell update versus paging response, one alternative can be decided now. The chairman commented that it seems to be the same protocol with different naming, cell update seems to be the preferred name.
Decision: Notation "Cell update" is selected.

With above concluded changes, the CR was approved.

R2-99380   Results from the RRC parameter ad-hoc group   (Rapporteur, NTT DoCoMo)
The rapporteur (Sato-san, NTT DoCoMo) stated that 17 documents were taken into account and 20 issues were addressed in the presented CR.

Nokia asked why in Sec. 10.2.7.27, "amount of reporting" is mandatory.
The chairman added that also the reporting interval should be optional.
The rapporteur agreed that both can be made optional.
The chairman requested that an explanation to each parameter should be included.
This was also agreed by the rapporteur.
The chairman asked about "time to trigger", what it shall mean. This parameter was proposed by Ericsson, but an explanation of its meaning could not be given immediately.
Ericsson asked to keep this parameter as ffs until an agreement is reached, after the Ericsson contribution on measurements has been presented.
The rapporteur commented that the parameter may not be needed at all.

Decisions:
In Sec. 10.1.6.1, UE information elements "transmission probability", and "max bit rate" were agreed to be optional (instead of mandatory).
In Sec. 10.2.7.33 "Pathloss + uplink load" , ffs. to be added.

CN info elements in e.g. Sec. 10.1.1.4 Cell Update Confirm, when also broadcast it remains unclear why they are also included in a dedicated channel message. An ffs shall be added until clarification is available.

In Sec. 10.1.1.12 RNTI Reallocation Complete message, when S-RNTI and SRNC ID included, while C-RNTI is already used for addressing, this would result in double addressing. S-RNTI and SRNC ID was agreed to be removed for now.

The updated version of the CR shall be provided by the Rapporteur (Sato-san) to Steve Barrett, Editor of TS 25.331.

The chairman gave the general comment, that a bit more care should be taken regarding wording, the terms. 'shall', 'should', 'may', 'can' etc. should be used precisely according to definitions.
Each editor of a permanent document shall review his document in this regard.

R2-99396   Report of e-mail discussion "Radio Interface for Broadcast/Multicast Services" (R/M) (Rapporteur, Mannesmann)

The rapporteur noted that only few discussions on the mail reflector took place.
Further discussions are expected for AI 7.4.
The chairman reminded everyone to work on this issue, Cell Broadcast is to be included in release '99.

R2-99399   Report of e-mail discussion on Radio Resource Management (Rapporteur, CSELT)

The rapporteur noted that basically only a discussion whether a certain part of an Ericsson. contribution should be included or not took place.
Ericsson asked whether it can be agreed now to include these parts.
The rapporteur commented that some figures would include sequence charts which are not in the scope of the document.
The chairman commented that the report shall describe how the standard shall be used,
Ericsson stated that it regards the respective figures as an important part to illustrate how it works, such charts should not be forbidden generally.
The chairman commented that some more explanation should however be given
Decision: it was agreed to include the charts, and that the issue is further offline discussed between the Editor of TR 25.922 and Ericsson (Pontus Wallentin).

R2-99401   Report of the RLC e-mail discussion (Rapporteur, Ericsson)

The Rapporteur noted that there was not very much activity on the mail reflector. The report summarizes the raised questions and the answers given by Ericsson to RLC toolbox and EPC mechanism.
Philips questioned why toolbox functions should be mandatory, simple terminals should not be prevented (could be charged more by operator).
The chairman requested not to discuss charging issues here.
Philips stated that use of toolbox as a "framework" would be acceptable, when some functions can be used only optional.
The rapporteur replied that it is the entire system that can take advantage of the toolbox functions, not only the UE. For the UE, the toolbox concept does not effect complexity very much, it would mean just a few more lines of code. The chairman agreed that the toolbox concept has not much impact on terminal complexity.
Motorola commented that on principle they are in favour of the toolbox concept, but there will be some terminals that will never use all function, e.g. speech service terminals never need all these services. It shall be made dependent on the service whether or not toolbox functions are supported by a UE. The chairman stated that this could be a good way forward.
The rapporteur stated that as soon as the ack mode RLC is supported, the toolbox should be applied
The chairman stated that for signalling not all functions would be needed..
Alcatel commented that it is difficult to understand what really belong to the toolbox, more clarification would be needed. It may include some functions which are not very useful.
The chairman summarised the present status that currently all present functions are ffs, except EPC, which was removed. WG2 should also consider terminal classes etc.
Motorola proposed to add some info into the LS to terminal group T2, asking for their opinion.
Decision: The proposed LS addition was agreed, further discussed at LS review AI10.

The rapporteur asked how the discussion on the toolbox concept shall be continued.
The chairman proposed that specific contributions to each toolbox function should be made.

R2-99434 Report from email Ad Hoc on Hybrid ARQ (Rapporteur, Siemens)

A discussion on Iur impact of Hybrid ARQ was noted by the rapporteur.

The chairman proposed that discussion should continue. Contributions should be made that address the related issues.

R2-99452 Summary of e-mail CPCH discussions (Rapporteur, GBT)

The report includes a summary of e-mails and conclusions drawn by the rapporteur.
The rapporteur highlighted the claimed advantage of a fast access method with no need to establish DCH, which may save several tens of ms. No release of resources is needed when using CPCH.
Philips commented that the downlink signalling required in the scheme is insufficiently answered in report.
GBT stated that up to 16 CPCH can be allocated. All necessary CPCH parameters are broadcast.
Nokia asked why restriction to Traffic channel "CTCH" (in an email) was made.
GBT clarified that also DCCH can be mapped to CPCH.

Summary of e-mail ODMA discussions (Rapporteur, Vodafone)

No written report was available.
The rapporteur stated that essentially no discussion took place after it was initiated by Vodafone.

Summary of e-mail discussions on cell selection/reselection (Rapporteur, Vodafone)

A verbal report was provided stating that no email discussion took place after the initiation of the ad-hoc. Delegates were encouraged to state their views during the Workshop on Handover and Cell selection/reselection in Sophia Antipolis on 9-10 June 1999.

R2-99389 Report from the Ciphering email ad-hoc (Nokia)

There was not much activity on the mail reflector.
The report was noted.

6 Proposed changes on 25.301, 25.302, 25.303 and 25.321

6.1 Transport channels

This agenda item was treated in the TS 25.302 adhoc group.

Result of 25.302 Adhoc (Rapporteur: Chairman)

The adhoc group has produced an update of TS 25.302 that was presented to the meeting:
The CCTrCH concept has been revised. Individual TFCI per CCTrCH and relation to C/I requirements were clarified.
A section on simultaneous physical channel combinations was added as ffs issue.
Some clarification on transmission time interval was included.
It was discussed why the last transport block could be smaller (no change in document, Nokia (Mikko Rinne) is aware of the details. An earlier contribution by Nokia presented in the UMTS-L1 Group will be redistributed on the reflector.
The Transport Format parameters were clarified.
Clarification on "incremental reconfiguration of TFCI" (loss of user plane data) was included.
A long discussion on slotted mode took place. The present content in TS 25.302 was agreed again without change. It was however concluded that the present text should be brought to special attention of WG1.
The table in Annex A describing transport format values was filled out, aiming to be in accordance with assumptions of WG1 (needs to be reviewed by WG1)
RRC measurements shall be included from 25.331.
Primitive parameters remain ffs.

Discussion:
LGIC commented that differences in rate matching on uplink and downlink, should be checked.

The chairman stated that the same concept (i.e. some ratio) is applied in both links.

In summary, it was concluded that the multicode issue remains to be clarified, and the primitives need to be specified (needed for Iub specification).

Decision: All changes proposed by the Adhoc group were accepted. The document will be distributed on the reflector to allow to check it again.

6.2 Services of the physical layer

R2-99426 Further Clarifications on Variable Rate Packet Transmission (Panasonic)
This contribution addresses concerns that were raised on variable rate packet transmission assumptions. In the second part of the contribution an addition to TR 25.922 RRM strategies is proposed.
Decision: The addition to TR 25.922 was approved.
Primitives aspects need to be worked further out.

6.3 Ciphering/security mechanism and procedures

This agenda point was handled as a formal joint meeting between RAN WG2 and TSG SA3.

R2-99375 Proposal for a MAC+RLC ciphering model (Alcatel)
In the discussion Tim Wright clarified that a 2^{32} counter is proposed because it is used in GPRS, although it is probably overkill, 2^{24} corresponds to a period of only 1 day, i.e. it would be too short. Data should not be less secure than speech.
Philips raised the question whether in case of HARQ same ciphering can be used. It was replied that when same data is ciphered with the same ciphering sequence multiple times, no additional information could be obtained by eavesdropping.
SA3 members stated that SA3 prefers incrementation of HFN after each session or call
Nokia clarified that not usage of the same HFN was proposed, but of a smaller one.

R2-99390 Further clarifications of the MAC based ciphering solution (Nokia)
The document addresses identified problems with MAC ciphering and discusses potential solutions. Nokia stated that the original proposal to perform ciphering on MAC for non-transparent RLC is withdrawn. The document was noted.

The chairman concluded that in the further discussion the focus should be on the MAC+RLC solution as proposed in R2-99375.

R2-99440 SA3 proposal for ciphering architecture (TSG SA3)
The document was presented by Tim Wright (Vodafone) on behalf of SA3.
He stated that SA3 supports MAC+RLC proposal, since it is more secure to do ciphering on top of RLC.

R2-99465 Further questions for ciphering (Vodafone)
The document was presented by Tim Wright (paper copy was numbered as R2-99441a).
Requests information on at least minimum and maximum RLC PDU size, all intermediate values also needed. The importance of ciphering setup time was stressed.
It was clarified that the paper addresses both modes, FDD and TDD.
Nokia asked whether question 4 refers to number of parallel RABs.
Tim Wright answered that a number of parallel RABs may use the same ciphering engine, it must not be one ciphering engine per RAB. When the number of bearers corresponds to number of ciphering engines, then maximum number of PDUs per frame per bearer is the requested input.
The chairman stated that the raised questions need to be answered, that however no contribution is yet available. Some answers should be provided during this week.

Tim Wright stated that the requested information is needed to enable the design the ciphering algorithm to in SA3. Due date is in June.

Decision (WG2 meeting day 4): It was agreed that Vodafone (Alan Law) shall draft a reply to LS from SA3 R2-99465, which shall be discussed on the e-mail reflector.

R2-99441   Open questions on ciphering (Vodafone)

Time Wright clarified that this contribution is sourced by Vodafone since it is not yet approved by SA3. The chairman questioned whether the assumption is, that the cipher key can be changed during a bearer session. Alcatel commented that somewhere in WG2 documents it may be mentioned that this would be difficult and should be avoided.
The chairman asked if it would not be sufficient to state that changing of the key during lifetime of RRC connection is possible.

Vodafone stated that a 64 bit key could be cracked today within one day. In a few years it will be possible in an even shorter time.
Alcatel commented that there is no problem to change the key in idle mode.
The problem in changing the keys was answered by Alcatel being due to
synchronization. At any change, there is higher risk to lose synchronization.
The chairman commented that in GSM changing of keys is possible at handover. He asked why then it is not always possible. There is an advantage of having only one key that can be changed any time. It was not clear to him whether or not this was studied in detail.

Tim Wright explained the possible problems in an overhead drawing, that would occur when the ciphering key would be used for a longer time than intended, in case it is switched between CS and PS sessions while the same key is used.
The chairman summarized that the requirements are now well understood, that either multiple keys must be used or change of keys be allowed.
It was stated that SA3 prefers a 2-key solution in signalling plane. A change of keys would require time in the order of 5 seconds.

However the assumption in SA3# is, either a 2-key solution (one key per domain (CS/PS)) or single key where always the last one used is carried over when the domain is changed.
The chairman commented that in the signalling plane the key needs to be changed anyway.

R2-99457   Liaison statement on usage of GSM-only SIM Cards for 3G access
(3GPP SA WG3)

The presenter explained that this short LS resulted from a long discussion in the SA plenary
One can use GSM SIM, but the operator can refuse to accept such a terminal.
The LS was noted.

Overall conclusions from the joint meeting
Tim Wright asked whether the integrity control issues are now fully understood in WG2.
Nokia noted that some issues are addressed in their contribution R2-99391.

Tim Wright explained, in GSM by default no ciphering is used. Terminals shall therefore wait for a "ciphering on" command. If it is not received within a defined time, the call shall be dropped. A few commands such as "ciphering on" need to be integrity protected. Also some other messages require integrity check, e.g. cell update, URA update, etc., everything that needs to be protected against channel high-jacking.

The chairman commented that a list of messages that require integrity control should be assembled.
Again the issue was raised whether the ciphering key or even the ciphering/integrity algorithm can be changed.
The assumptions of SA3 would allow negotiation as in GSM and possibility to change the ciphering algorithm at handover.

Tim Wright proposed that an LS from WG2 to SA3 should be written, explaining especially the integrity control assumptions of WG2.
Decision: It was agreed that Nokia shall draft the LS to SA3, R2-99474.

R2-99488   Ciphering description (Alcatel)
CR to TS 25.301 (replacement of Sec.8), TS 25.321 (MAC-d model) and TS 25.322 (RLC UM model) with respect to ciphering. This document was presented on meeting day 4 (outside the joint meeting with SA3).
Ericsson requested that a footnote related to MAC-d entities should be included that ciphering on DCH is not always used, i.e. not for AM/UM mode.
Nokia proposed to include a reference to SA3 documentation.
Figure 1 was agreed to be removed. In the caption of Fig. 4 it should read "unacknowledged mode" instead of "acknowledged mode". Figure 5 should be aligned with the present figure in TS 25.322.

Decision: Approved with the above listed proposed changes.

After handling of R2-99488, Ericsson asked whether it is now clear who decides on ciphering mechanism. The chairman stated that it is WG2 task to define a scheme that fulfils the requirements clarified during this week.

6.4 Random access procedure

R2-99415   Contents of RRC Connection Request (Ericsson)
Sony asked what the answer from WG1 on our LS to this issue has been.
Ericsson replied that the answer is pending.
Motorola commented that the LS has not been answered due to confusion in WG1 about the various options.
The chairman asked whether all listed UE Ids should be supported.
Ericsson stated that this should not be part of the UTRAN specification. It is not to decide for WG2. Selection is done by UE, where however it has to be specified which ID should be used in which particular case.
Alcatel commented that the CR should be kept ffs, until an answer from WG1 is received.
Nokia noted that one parameter is missing in the list, HFN required for ciphering purposes.
The chairman commented that integrity control may require other information.
It was replied by Nokia that possibly also HFN can be used.
Siemens stated that WG2 should wait with a decision until a reply from WG1 is received, otherwise many more extensions will be needed. This was supported by Motorola.

The chairman commented that the proposed changes for TS 25.301 and TS 25.331 are rather small, and proposed to accept the proposed changes with ffs included.

Decison: A new LS to WG1 shall be drafted by Ericsson, R2-99475. The proposed CR to TS 25.301 and TS 25.331 were accepted with additional editors note and marked as ffs.

R2-99410   MAC tasks in the random access procedure (Ericsson)
The document presented a model of MAC control of the timing of random access transmissions on transmission time interval level.
Telelogic asked about the meaning of the dashed arrow in Fig. 1. Ericsson replied it means that transmission or reception of this signal is optional, the further procedure is the same in either case.
Philips questioned why this issue should be decided now.
Philips also asked why introducing backoff provides a means of load control. Ericsson replied that backoff can provide a better distribution of interference and thus provides spreading of the temporary load over time.
Sony questioned why backoff based on persistency and not as proposed at previous meeting by Sony should be agreed now, without any simulation results. Ericsson replied that the proposed algorithm is similar as in GPRS. Intentionally a very general algorithm is proposed here keeping the actual setting of parameters open until simulation results are available.

Siemens stated that the annex in TS 25.321 needs to be changed, and proposed to accept the presented scheme for now, instead of just deleting the present text.

It was agreed that a note should be included that the backoff time can be zero in certain conditions.

The chairman proposed that at first agreement on the general model of random access control should be achieved then it should be looked at the backoff algorithm. The first part of the contribution, Sec. 2.3 seemed to be acceptable when all references to persistence control in the text and in Figure 1 would be removed. Ericsson was asked to resume with some offline discussions especially with Sony and come back with an acceptable proposal on the next meeting day.

The next meeting day Ericsson stated the results of the offline discussion as follows: due to possible misunderstanding, the term "preamble retransmission" should be changed to "preamble retransmission cycle", in Fig. 1 and in the text "due to persistence control" should be removed. At UE side MAC-Data-IND primitive needs to be replaced with MAC-Data-REQ. In Fig. 1 a note explaining the dashed arrow should be included. Inclusion of a note that backoff time can be zero in certain conditions.

This proposal appeared to be acceptable for all parties, except Lucent. Lucent requested to present their contribution R2 before drawing a final conclusion which was accepted.

R2-99476   Fast L1 NACK for RACH Data part (Lucent)

Proposal to sent negative acknowledgements to incorrectly received RACH message part on AICH.

The chairman asked what the difference between the proposed algorithm and the MAC ack discussed earlier and removed at the previous meeting would be.

Lucent replied that the proposed scheme would be faster than MAC acknowledgements.

The chairman stated that the MAC ack was also in Node B and therefore fast.

Alcatel noted that with the proposed scheme the UE has to listen to FACH and AICH simultaneously, i.e. it implies multicode reception.

Motorola noted that after the message part is sent, the AICH may be used for transmission of ack/nack to preamble transmissions of other mobiles. Motorola stated that such a scheme was already discussed in WG1.

Telia stated that a difference to the MAC ack would be that only negative acks in case of failure are sent. However no need for neither nack nor ack was seen below RLC.

Lucent stated that the L1 ack could simplify the random access protocol.

The chairman commented that if it is not proposed to remove RLC ack a new feature is added, but the protocol is not simplified.

Ericsson commented that the proposed scheme would result in a stop-and-wait protocol in L1, not using advantages of selective repeat on RLC.

The chairman stated that he does not see an issue here, it could work well.

Ericsson commented further that with this proposal WG2 is going back to the status of two meetings before.

Lucent said the proposed scheme is more simplified now.

The chairman commented that it should be shown that there is a problem to solve. Regarding feasibility, except for the multicode reception issue, it may work well.

Philips questioned whether another method of "fast call setup" is necessary when we have now the CPCH included.

The chairman replied that nack on L1 would be faster than RLC ack, but the question is still how much can be gained. The main question is do we need it? How does multicode work?

Telecom Modus commented that the AICH is not a transport channel, not visible to MAC, so it belongs to WG1.

The chairman replied since it is a protocol it belongs to our group. WG1 will ask whether or not we need it.

Ericsson commented the scheme may introduce additional delay, since selective repeat would not work well. Lucent replied that this would not be true.

The chairman commented that there might be only slight delay due to wait time for the nack to the message.

The chairman summarised the discussion. A few problems have been identified that need to be studied: impact of having two retransmission layers, multicode reception, performance gain.

This is adding on top of the present model. There are some crossing aspects with present AICH and FACH reception.

Decision: LS to WG1 shall be drafted by Lucent, R2-99476.

Decision on R2-99410:
Lucent now also agreed to the model proposed by Ericsson (with changes listed above) with an additional Editors note: "An additional L1 nack for the RACH message part is ffs".
Final text shall be provided by Ericsson to the editor of TS 25.321.

Regarding the CR to TS 25.301 in R2-99410, removal of "Constrained execution of open loop power control algorithms was accepted".
Sony requested that successive transmission should not be removed now. It was agreed that all but the first sentence of the explanatory text should be removed.

R2-99455   Dynamic Persistence for Random Access (Motorola)
Contribution addresses especially BCCH load issues related to the persistency algorithm.
Sony asked whether the update frequency of persistency has been studied. Earlier one update per frame was proposed now it is reduced to four frames.
Motorola replied that no simulations were performed
Sony asked if the granularity of persistence value has been studied.
Motorola replied that as proposed it is probably adequate since not many collisions are expected. But no simulations have been performed.

Decision on backoff algorithm aspect (R2-99410, R2-99455):
The chairman stated again that with the backoff algorithm the load aspect, not the collision aspect is addressed. First the problem to be solved should be clarified, then the algorithm should be agreed.
It was agreed to resume with e-mail discussion on the backoff algorithm. Steve Barrett (Motorola) was assigned as rapporteur.

LGIC asked whether the ASC control function should be moved from MAC to RRC.
Ericsson replied that the proposed concept of MAC tasks in random access procedure would imply this conclusion. This however has not been proposed in contribution R2-99410.
It was concluded that an extra contribution would be needed for this change request.

6.5 Downlink shared channels

Tdoc R2-99454 "Prioritization and Queue management for DSCH, addition to InterDigital contribution" by France Telecom originally assigned to this agenda item was moved to AI 6.8.

It was agreed that a reply to the LS R2-99466 on DSCH from WG3 shall be drafted by Nokia, R2-99490.

6.6 Uplink shared channels

No contribution.

6.7 CPCH

It was agreed to treat the GBT contributions on DPCH in a top-down approach and to focus mainly on 6 documents. Conclusions should be drawn after all presentations.

R2-99449   Overview of system-wide CPCH Access Procedures (GBT)
Overview on CPCH access procedures in tutorial style.
Philips asked whether there is a preamble receiver needed in UE for reception of downlink preamble set.
GBT replied, the same receiver as used for AICH is used.
It was commented that Node B/MAC versus L1 terminology needs to be sorted out.
Sony asked if initial access can be done on CPCH.
The chairman clarified that the CPCH is not proposed to replace RACH. For initial access RACH is employed.
Philips asked why the CPCH is not used in idle mode.

The chairman replied this may be possible in theory, but it is not proposed by GBT.

R2-99450   Overview of RRC-based bandwidth management for CPCH (GBT)

The chairman asked whether CPCH allocation is on per cell basis, or on basis of multiple cells.
GBT replied, CPCH assignment can be based on multiple cells, it depends on traffic volume.
GBT stated that there is no uniform loading of adjacent cells normally.
Philips commented that preassignment as foreseen for the FAUSCH could be done.
GBT replied that L1 nack is given to indicate that CPCH is currently in use.
Motorola asked what really is the advantage compared to using RACH/FACH.
GBT replied, CPCH is regarded as intermediate scheme between RACH/FACH and DCH/DCH, used dependently on how many data is backed off.
Motorola asked about bidirectional transmission, for acknowledgements.
GBT replied, the CPCH is unidirectional, but can be combined with DSCH on downlink.
GBT clarified that basically a new transport channel, CPCH, is needed to be defined.

R2-99445   Request for CPCH-related modification of S203 (GBT)

The chairman commented that the proposed scheme implies multicode on the downlink, CPCH/FACH + CPCCH.
FT asked if there can be simultaneous DCH and CPCH on the downlink.
Philips asked whether there is need for Iub signalling when transport channels are created
The chairman confirmed that this is needed, as for RACH/FACH.

The chairman commented that control of resources proposed to be in RNC, requires means to take care of Iur/Iub delay. Last meeting there was control in Node B discussed. He questioned
why this new solution is proposed since allowing high bit rate users on a contention based channel may have bad effect on other users.
GBT stated that: switching the CPCH off could be handled by monitoring function on L1.
The chairman asked how a UE can be shut down fast.
GBT replied this can be done maybe with 10ms delay in Node B, depending on interleaving delay.
GBT stated that the RRM report is not addressed here. This will be considered later.

Specific comments related to TS 25.303:
The editor of TS 25.303 (Mikko Rinne, Nokia) made the general comment that the list of parameters in Sec. 6.1, should actually be moved to another document.
The chairman commented that on page 13, CPCH/FACH state is acceptable, on CPCH/DSCH there are many questions, possibly RACH+CPCH/FACH substate should be introduced, page 18: CPCH set assignment is unclear, p. 21 DCCH replaces CCCH , p. 24/25 editorial comments CPCCH.

Decision: RACH+CPCH/FACH substate shall be introduced, CPCH/FACH shall be removed, on p. 16 parameters shall be removed, on page 18 "CPCH set assignment" removed from Transport channel Reconfiguration", in Fig. on p.21 CCCH replaced with DCCH, in Fig. on p.25 CPCCH to be removed, simplified signalling shall be shown.

R2-99446   Request for CPCH-related modification of S221 (GBT)

Alcatel asked, since collision detection has now been identified as L1 task, what multi-access control in MAC would be needed.
GBT replied that the CPCH selection process remains on MAC.
The chairman added that also backoff control would be a MAC task.
Nokia asked what the difference of the packet building function compared to other channels would be.
GBT replied, the difference lies in sequence of events, packet building performed before it is known which CPCH is actually used, segmentation/reassembly is needed when the packet does not fit into the assigned channel.
The chairman commented that the same holds as for other channels. It needs to be clarified whether the transport block concept is also valid for CPCH.
GBT replied that for the CPCH, MAC has to deal with multiplexing priority, not sure if this is included for other channels. GBT however agreed that it should be tagged for further study, possibly it is very similar for other channels.

Siemens asked why the changes proposed in Sec. 4.2.3 include the DSCH.
The chairman stated that all aspects of CPCH related to the DSCH have already been identified as ffs.
Alcatel commented control of CPCH parameters is not MAC, it is RRC
LGIC asked, in text proposed on p.16, what is meant with base node and why is call admission control regarded as MAC function.
GBT clarified that base node refers to Node B, and agreed that call admission control is not a MAC function.
Philips asked why CPCH is handled by MAC-c and not by MAC-sh.
GBT replied that this is due to the alignment with the RACH.
The chairman added that as the RACH, the CPCH is a contention based channel whereas shared channel refers to sharing of a code.
Philips asked why L1 should be in charge of access control/scheduling.
GBT replied that it must be Node B, whether it is L1 or MAC is unimportant.
The chairman commented that this is truly a MAC function but it is now handled in WG1.
GBT stated that in the WG3 overview document, there might be a MAC layer for AICH included.
The chairman replied that this should be checked.
Alcatel asked about AICH monitoring. GBT stated that this is background task.
Alcatel stated that it should be marked then as not mandatory, which was agreed by GBT.
Siemens asked what kind of different RNTI would be needed for the CPCH.
The chairman replied that the same RNTI as for other common transport channels can be used.
Ericsson noted that on p. 9, the CTCH mapping should be removed.
GBT clarified that this was an error.

The chairman suggested that the proposed Annex could partly be included in TS 25.301 as a high-level description of the CPCH concept similar to DSCH description.
GBT stated that they will look at TS 25.301 and make intermediate-level description proposal.

The section 14.2.5.2 on scheduling might be kept but marked with ffs and a note "needs to be reviewed", as for RACH now.

GBT agreed that the CPCCH issue could be resolved at the next WG2 meeting.

The chairman noted that a recap of the conclusions should be done after all CPCH related documents have been presented.

R2-99444   Change Request for CPCH-related modification of S201 (GBT)
GBT clarified that the mapping of CCCH to CPCH is an error.
Siemens commented that CPCH should be marked "FDD only" in the mapping figure.
Ericsson expressed doubts that any new RRC function needs to be added.
The chairman agreed that the current bullets seem to cover this already.
GBT agreed to revise the proposal.
Decision: CPCCH should be deleted in Sec 5.2.1.1. Need of new MAC functions should be checked further. In sec. 5.3.3.5 delete second sentence. Include CPCH in existing RRC functions. Rewrite protocol termination for CPCH, in Sec. 6 replace CPCH/DSCH with RACH + CPCH/FACH.

R2-99443   Request for CPCH-related modification of S202 (GBT)
The chairman asked why multiple CPCH were shown in the model.
GBT replied that CPCH with different QoS should be supported.
The chairman clarified this could be handled with multiplexing on MAC, controlled by TF selection, which allows different QoS on e.g. 10 ms basis.
GBT agreed The need to multiplex different CPCH on L1 should remain ffs. The figure will be revised.
The chairman requested that clarification should be added how multicode operation is performed (for more than 384 kbps). GBT agreed.
LGIC commented on Sec. 6.2 CPCCH, why signalling on DPCCH is performed.
GBT answered it will be removed.
Motorola proposed that "Composite" in "coded composite transport channel" is removed

It was discussed whether CPCH has variable rate and a TFCI is needed or not.

Alcatel supported the chairman's view that coding and spreading factor could be changed and is signalled by TFCI.

The chairman concluded that the CPCH is essentially a DCH which is allocated for a given period of time. Since it however is a contention based channel, the possibility to shut down UE transmission was requested at the last meeting (by Ericsson).

R2-99448   Firm handover over CPCH (GBT)

Philips asked whether different spreading codes are used in different cells.

GBT replied that after acquisition of a CPCH, transmission to one cell is performed.

Telecom-Modus addressed the possibility of using two c-RNTIs, then two contexts are needed.

The chairman invited to look more at the implied protocol aspects.

GBT stated that clearly further work is needed. The document was just presented for information.

The document was noted.

R2-99451   RLC scheme for CPCH (GBT)

The document was noted without presentation.

CSELT requested clarification if GBT proposes an extra RLC algorithm for CPCH.

GBT replied that nothing special on RLC is needed for CPCH.

The chairman asked whether the CR to RLC is obsolete.

GBT replied that it was submitted to give the full picture on CPCH.

R2-99453   CPCH simulations (GBT)

The document was noted without presentation.

Final discussion of the CPCH contributions:

Philips asked whether the CPCH shall be optional or mandatory for the UE.

The chairman replied this should be discussed together with mobile class concepts.

France Telecom asked what the major benefits of the CPCH would be.

GBT replied, fast access, less signalling in backbone, packet mode more efficient for bursty data, more efficient use of base station resources.

The chairman stated that there is similarity between the CPCH with the SDCCH in GSM.

Philips commented that it still would not be clear how much faster the concept is compared to setup of dedicated channels.

The chairman stated that this is essentially a WG3 issue. He referred to a former LS, where WG3 could not make a statement on delay due to dependency on the load. He stated the FAUSCH may simplify a few things, but the network nodes are still there.

Motorola commented that they prefer scheduled access to the uplink resource Motorola remarked that RACH receivers would be quite complex, the group should be aware of this.

Nokia stated their opinion that a channel 'between' RACH and DCH is needed.

Decision: The basic CPCH concept was agreed, unless major problems will be found when detailed agreements are sorted out on the next meeting day.

There was agreement in the discussions that an advantage of the CPCH lies in the fact that it seems to be faster than allocating a DCH via the RACH, because accessing the CPCH does not involve SRNC and CRNC protocol exchange, which is necessary for allocating the DCH. The gain in speed was not clear due to the fact that WG3 is currently not able to state about delay figures due to the protocol exchange across Iub and Iur (see R2-99230).

Review of CR updates (day 4):

R2-99477   Proposed CR for 25.301 for the CPCH concept (GBT)

The CR was approved with following changes: CPCCH deleted in abbreviations, on page 6 the last sentence of the proposed text should be replaced with: "The CPCH is fast power controlled". On page 9, Sec 5.6.4: Figure 14 (for DCCH) presents the control plane protocol termination". On page 11, to Annex B a note shall be included: "Following description needs to be reviewed at future meetings".

The editor of TS 25.301 will include the changes into CR's presented to RAN#4 that includes all changes agreed in this meeting.

R2-99478   Proposed CR for 25.302 for the CPCH concept (GBT)
The CR was approved with following changes of text proposed for Sec. 7.2: 3rd item replaced with "fast power control on the message part", 6th item replaced with "improved collision detection", 8th item removed, last item removed (CPCCH including the list of characteristics).

R2-99479   Proposed CR for 25.303 for the CPCH concept (GBT)
The CR was approved with following changes: page 5 changes in new proposed paragraph, Text referring to "RNC" should be reworded, refer to UTRAN instead. Paragraph 6.1, 9th bullet line should be changed to "CPCH access parameters per CPCH channel. Details are ffs." (rest of line deleted). The Editor of TS 25.303 should also include RACH access parameters.
In Fig 4 the already defined primitives should be used (no specific primitives for CPCH needed).

Philips proposed no rename the states "RACH+FAUSCH" and "RACH + CPCH" to "RACH + FAUSCH + CPCH".
Decision: It is left to the editor of TS 25.301 how to properly reflect the states in TS 25.303.

R2-99480   Proposed CR for 25.321 for the CPCH concept (GBT)
Ericsson proposed that: the term "packet" at various places in the CR should be changed to transport block or removed.
The CR was approved with following changes: page 6, Sec. 4.2.3, the bullet line shall be deleted, in 7th bullet line remove "packet", Sec. 4.2.4 in the proposed addition replace "packet" with "transport block", on page 8 remove the proposed new bullet lines, on page 10 remove the proposed new bullet line, page 13 Sec.14.2.5.1, remove first sentence. Change the next sentence as follows: "The CPCH may carry control and user traffic from multiple logical channels on one CPCH transport channel from the UE to UTRAN".
The editor of TS 25.321 shall furthermore replace the term "MS" with "UE" at various places.
The MAC-c entity may require editorial changes that shall be considered by the editor.

6.8 Other changes

R2-99400   FACH scheduling, Prioritization and Queue Management (InterDigital)
The contribution proposes to include a box "scheduling, priority handling and flow control" in the MAC-c and "priority setting and flow control" in the MAC-d entities. The "C/T mux" is proposed to be moved from MAC-d to MAC-c.
The chairman asked why "C/T mux" was moved.
InterDigital replied that it is due to possible delay. If this box includes the multiplexing function it has to be moved, if it refers only to the MAC header building function it could stay.
Alcatel supported the opinion that it is not clear what the C/T box means, especially when different priorities apply.
The chairman commented that multiplexed parallel streams could be separately prioritized.
The issue how many different streams need to cope with priority was already discussed in WG3, and it should be left to that group.
Interdigital stated that they look for a clearer definition what C/T mux really does.
The chairman comment that the definition given in the 5th bullet line in Sec. 8 of the proposal should be sufficient with some changes.
The chairman and Ericsson stated that routing for different priorities should be handled in WG3.
Decision: It was decided to keep C/T mux in MAC-d. The 5th bullet line in Sec. 8 of the proposal should be changed as follows: "The C/T Mux box is used when multiplexing several dedicated logical channels onto one transport channel is used. C/T mux is also responsible for setting the priorities". The new text shall replace the present description of the C/T mux box in Sec. 4.2.4. Decision on flow control/priority handling see R2-99454 below.

R2-99454   Prioritization and and Queue management for DSCH, addition to InterDigital contribution (France Telecom)

The contribution proposes to include a flow control function in MAC-sh for DSCH, as an addition to the proposal R2-99400.

France Telecom clarified that exactly the same as in R2-99400 for MAC-c assumed is proposed here for the DSCH.

Ericsson stated that flow control is needed, but asked why it should be visible on MAC, it concerns Iur only.

The chairman commented that it is most important that a consistent interpretation is applied in both groups, WG2 and WG3.

Ericsson stated that such a function is not needed on MAC. MAC must just be compliant to the Iur interface. The chairman repeated his opinion that it could be in the MAC model as long as it is agreed with WG3.

Nokia commented that it is MAC-c that controls the flow.

The chairman explained that it describes the end-to-end operation in a good way, and that this should be shown somewhere to show the complete picture.

Ericsson stated that they can agree as long as it is clear that this is not a radio interface function.

The chairman agreed with this opinion, it is flow control between MAC-c/MAC-sh and MAC-d which should be clear to everybody.

Alcatel stated that it affects radio interface performance. Therefore Alcatel prefers to see it on MAC.

Ericsson proposed to better include flow control and priority handling in separate boxes and denote the one box "flow control between MAC-c and MAC-d" or "flow control between MAC-sh and MAC-d", respectively.

The chairman commented that this can be handled by the editor.

Decision: Inclusion of separate boxes for flow control and priority handling as discussed. Details of editing were left to the editor of TS 25.321.

R2-99392   Proposed editor's update to 25.303 (Nokia)

The proposed changes are listed on the cover page of the contribution.

The editor noted that some further corrections in the URA update procedure are needed. Corrections should be the same as for cell update procedure.

Philips commented possible inconsistencies in primitive naming with TS 25.302, e.g. in Figure on page 32. The chairman asked that this should be handled offline.

Decision: The CR was approved.

R2-99418   Inter-system handover for simultaneous IP and PSTN/ISDN domain services (Ericsson)

The chairman asked about the assumptions on the mobile, if two receivers and two-slot reception are assumed.

Ericsson clarified that no specific assumptions on GSM side function were made. A description of assumptions could be added.

Alcatel commented that the block flow between UTRAN-RLC and GPRS-LLC is unclear.

The chairman replied that the block flow is above RLC, started from scratch, and done before segmentation.

Decision: The proposed section 2 was accepted as a starting point. It should be marked ffs. and a note should be added, stating that the section needs to be reviewed by SMG2. The issue should also be presented at the handover workshop in June.

R2-99416   Completion of the procedures for RRC connection establishment and re-establishment (Ericsson)

Nokia asked, in this case RRC connection is established, whether it is necessary to transmit all UE information.

Ericsson replied that this is probably not necessary.

The chairman commented that just a part is needed, e.g. baseline capabilities are necessary, and some other information.

The chairman asked if both cases GPRS (VLR saved capabilities) or classmark as in GSM were considered.
Ericsson replied it is assumed that the UE sends the capabilities to the network.
The chairman asked how much information this would be. In GSM today classmark information is more than 20 bytes. In GSM the full information is always sent, whether it is needed or not.
Nokia commented that they have another proposal at agenda item 9, suggesting that it is broadcast on BCCH whether UE needs to send UE capability information or not.
Ericsson commented that a split of UE capabilities into UTRAN and CN part would be possible.
The chairman suggested that the part "2.4 Transfer of UE capability info" of the contribution should be left for agenda item 9, when Nokia's proposal will be reviewed..

Decision: The proposed changes to TS 25.303 were accepted. An editors note shall be included "In case full or partial UE capability information needs to be sent it will be sent in the RRC connection complete message" (exact text of note as read out by the editor of TS 25.303).

R2-99423   Optimisation of procedure for DCH modification by using asymmetric channel reconfiguration (Nortel Networks)

Vodafone asked whether there are limits on channel configurations foreseen.
Nortel replied that they do not see a need to limit it.
The chairman commented that it is to be decided by the network.
Philips asked how much faster the proposed scheme would be.
The chairman stated that this will depend on Iub and Iur delay.
Philips asked what the cost in Node B would be.
The chairman clarified in terms of memory just a few octets, does not see it as critical.
Philips asked how to interpret the figure.
Nortel replied that the figure may not be so clear.
Nokia asked if there is double decoding of the configuration.
The chairman replied that the cost is that one frame can be lost.
Nokia stated that the present synchronized case solution was to avoid double decoding.
Philips asked whether an erroneous transmission could fake a change of configuration.
The chairman replied that this would be recognised after a few frames.
Nokia commented that they would like to have confirmation by WG3 that the proposed method would be feasible.
Alcatel commented the required inband signalling could create problems, and needs further study.
The chairman replied inband signalling would be similar as measurements and outer loop power control.
Samsung asked how the change of configuration is detected in Node B.
The chairman replied that this is done with CRC check.
NTT DoCoMo noted an error Fig. 1, "Cfg2 detected" should go to RNC-RRC, and asked whether it is sufficient to receive it from one Node B.
The chairman replied it would be enough to receive it from one Node B.
Ericsson asked if a complete message is needed.
Nokia stated it is not sure whether it is a new procedure or just an enhancement of the present asynchronous operation.

Decision: The addition to TS 25.303 was accepted with following changes: An editors note shall be included stating that the section requires review by WG3, and that it is ffs whether or not the procedure is needed. In the second paragraph the sentence "The selected configuration is signalled to the Node Bs in Iub frame information" shall be removed (up to WG3 to look at this). "Complete" message shall be added. In third paragraph last sentence changed to: The UE can avoid data loss by temporarily performing double decoding. Correction of Fig. 1 regarding cfg2 detected. Addition that "Cfg detected" can be received from one or several Node B.

After discussion of R2-99423 it was agreed to send entire TS 25.303 to WG3 as an LS.
The editor (Mikko Rinne) agreed to provide the updated version until Wednesday June 2 (provided he receives the updated CR's from Nortel and GBT).

At the end of the meeting, Siemens raised the issue of Timing Advance for the TDD mode, referring to their contribution R2-99435 which could not be presented.

Decision: When Timing advance shall be included in release '99, a respective input to RAN meeting #4 shall be provided by Siemens.

Siemens also raised the issue of MAC signalling, referring to contribution R2-99436.
Decision: It was decided to establish an email discussion group on MAC signalling (Rapporteur: Steve Terry, Interdigital).

7 Technical reports

7.1 Protocol methodology

R2-99432   Abstract description of RRC messages (Nortel Networks)
Not presented

R2-99473   Comments on the abstract description of RRC messages (Nokia)
Not presented

Decision: It was agreed to discuss above documents in an e-mail adhoc group (Rapporteur: Markku Turunen, Nokia).

7.2 RRM strategies

R2-99361   3GPP TR 25.922 V0.1.2: "Radio Resource Management Strategies", v.0.1.2 (Editor)
Not presented.

R2-99378   Criteria for Soft Handover Algorithm (CSELT)
Not presented.

R2-99424   Proposal RRM strategies (Telecom Modus)
Not presented.

R2-99462   Cell selection and re-selection process (CSELT)
Not presented.

Decision: It was agreed to discuss above documents in an email adhoc group (Rapporteur: Daniele Franceschini, CSELT).

7.3 Location services

R2-99374   Relevance of speed measurements for location services (Mitsubishi Electric)
Not presented. **Decision**: to be resubmitted to the next meeting.

7.4 Broadcast/multicast services

R2-99397   Scope of TR 25.925 (Mannesmann)
It was clarified that the correct report number is TR 25.925.
The chairman commented on the scope that all impacts regarding protocol specifications should be studied. CRs to the specifications should be prepared when needed. It is still not clear whether TR 25.925 shall be published or not. All UE-UTRAN aspects should be studied.
Architecture could also be included, including responsibility for function allocation to nodes
The editor asked how this issue should be handled with WG3.
The chairman replied that the report should be presented to WG3 as soon as it is in a good shape.
The editor stated that he would need to include again some text that has been removed from the initial version presented on the reflector.
Alcatel supported that functional split between the nodes should be included and decided first.
Decision: Scope should be updated by the editor to reflect the discussion. Description of functional split between nodes included.

The chairman noted that only SMS-CB is mandatory for release 99.

The editor replied that it is still unclear regarding GPRS what will be included in GPRS release 99, also an answer to an earlier LS sent from WG2 to SA2 is still pending. The editor stated that he shall try to find out the plans in GPRS standardization.

Philips asked how PTM group call is defined.

The chairman explained it is a server distribution service, where presently it is unclear whether it is needed or not. Whether it would effect the standard, needs to be found out.

The chairman supported the proposed document structure, as it allows that every chapter can be progressed independently.

The chairman proposed that an additional section describing a common model for all services should be introduced. The editor replied that it was removed due to a comment received from Ericsson. Ericsson replied that if such commonalities between the services exist, they could be described in common section.

The chairman questioned whether the proposed section 9 on multicast distribution services is needed, since the requirements are still under discussion.

Decision: The section 9 will be moved into an annex with a ffs note, in order to capture what has been done so far.

R2-99398   TR 25.925: Reissue of SMS CB service (Mannesmann)

Alcatel commented to Sec. 5.1, "scheduling" on radio interface should be in scope of this group

The chairman commented that it is unclear what is meant with streamlining, scheduling and repetition.

Right now a single request is sent by the SMS-CB center, all scheduling is done in BSS.

Alcatel commented that the control plane and user plane relation and usage of BCH or FACH need to be clarified.

The chairman clarified that scheduling, mapping on RLC, DRX is in the scope of WG2.

External interfaces and mapping to geographical areas is not in the scope.

Decision: The editor will provide a new version of the contribution only including the technical part, R2-99485.

R2-99427   Radio Interface for SMS-CB (LGIC)

Ericsson asked regarding DRX and scheduling, if the use of the paging channel has been considered.

LGIC replied that the FACH was considered.

The chairman asked if this FACH can be used for other services also.

LGIC replied that there should be the possibility to multiplex services.

The chairman stated that as many FACH as needed can be implemented in a cell.

It was discussed that scheduling in RNC would mean a trade-off between less load of Node B, easier architecture and higher load of Iub.

Ericsson asked how it can be ensured that paging is received, since SMS-CB is also applicable in idle mode.

The chairman replied that this depends on scheduling.

Philips commented that multicode reception is needed when multiple FACH are applied.

Nokia replied that this would not be the case, as long as it is clear to the network to which FACH a UE is listening. This issue is already addressed in TS 25.303.

Decision: The proposed section 4 was agreed, including MAC header in section 5.2 (1) (i.e. the principles are agreed). Section 5, message format and scheduling, is regarded as input for further study.

7.5 ODMA

No contribution.

8 Proposed changes on 25.304

Results of the idle mode adhoc group (Rapporteur Tommy Leivonen, Nokia):

R2-99393   CR to 25.304, UE Procedures in Idle Mode (Nokia)
Only editorial changes were proposed. Proposal: All changes should be accepted.

R2-99412   Cell selection and re-selection process (Ericsson)
Proposal: Discussion shall continue on e-mail reflector.

R2-99413   Discontinuous reception in idle and connected mode (Ericsson)
Proposal**:** An LS on Discontinuous reception shall be sent to WG1, drafted by Ericsson, R2-99494. Some concerns about definitions in sec. 2 were raised. Definitions were agreed to be included into the LS to WG1. A new section "Discontinuous reception" shall be included into TS 25.304.

R2-99414   Structure of system information (Ericsson)
Proposal**:** Overall structure of system information as proposed in Figure 1 should be accepted.

R2-99462   Cell selection and re-selection process (CSELT)
The contribution was presented quickly, but not discussed due to lack of time.
CSELT proposed that the contribution could be discussed further at agenda item 7.2 on RRM strategies. It was noted that LS R2-99489 "Reply to WG1 on Access Cell Selection", drafted by Motorola, is related to this issue.

Decision: The proposal by the adhoc group was agreed by the WG2 plenary.

9 RLC and RRC protocols (25.322, 25.331)

9.1 RLC (25.322)

Results of the RLC adhoc group (Rapporteur: Marco Mastroforti, CSELT):
10 documents were treated in the adhoc group, 3 more were not treated. Overlap between some documents was observed (detailed minutes of the adhoc group discussions can be found in Annex A).

R2-99402   Change Request of TS 25.322 (Ericsson)

R2-99382   Proposal on removal of BGN/BGAK/BGREJ (NTT DoCoMo)

R2-99383   RLC control primitives (NTT DoCoMo)
All proposed changes were accepted by the RLC adhoc group.

R2-99385   Proposal on RESET/RESET ACK PDU for RLC (NTT DoCoMo)

R2-99408   RLC Control PDUs: Reset/Reset Ack (Ericsson)
The RLC adhoc proposed to accept these contributions.

R2-99404   RLC elementary procedures (Ericsson)
This first contribution on elementary procedures was accepted in the adhoc group with some small changes. Siemens commented that the SCCH channel should be addressed also.

R2-99405   Piggybacking of status information in RLC (Ericsson)
The proposed new piggybacking status PDU was accepted in the adhoc group.

R2-99403   Estimated PDU Counter (Ericsson)
After long discussion and clarification of the EPC concept, the RLC adhoc group concluded to accept the scheme.

R2-99407   RLC SDU Discard (Ericsson)

The adhoc group proposed to include the SDU discard function and the MRW field in the Status PDU.

R2-99384   RLC confirm primitive (NTT DoCoMo)

The proposal was accepted in the adhoc group (impact on sec 9.1 of TS 25.321: removal of ffs).

After presentation of the adhoc group results, Philips requested that concerns that were raised about EPC should be minuted. Philips however also stated that they accept the general principle of the EPC triggering method.
Sony stated that the issue whether EPC should be optional or mandatory was discussed but not yet concluded. It should be concluded in the future as for the other functions of the RLC toolbox.

Decision: The WG2 plenary approved the results from the RLC adhoc group. In addition some rewording and clarification was agreed.

R2-99395   Suspend & Resume to support hand over, channel type switching (updated) (Philips)

This contribution was not presented. However, in connection with the discussion of the scope of the RLC adhoc group, there was a discussion on one issue raised in R2-99395, the selection of optional and mandatory functions of the RLC toolbox.
It was agreed that the choice/selection of mandatory and not mandatory RLC toolbox functions is a WG2 task

R2-99395 was only touched with respect to the question of whether the header compression technique should be mandatory for all UEs.
Decision: It was decided to remove the "mandatory for the UE" for the header compression technique in the permanent WG2 documents adding a note that the inclusion to service capabilities is addressed when information on the terminal classes from TSG T WG2 is available, and at the same time send a liaison to T2 telling them that a number of features described in WG2 need to be defined on a set of terminal class definitions (toolbox, EPC, header compression, …), and that depending on the UE capability classes definition some of the proposed techniques will be optional and some of them will be mandatory for some classes.

R2-99406   RLC Status PDU refinement (Ericsson)

Not presented.

R2-99429   RLC SDL Model Nokia

Not presented.

Decision: Above contributions should be resubmitted to the next meeting.

9.2 RRC (25.331)

The chairman suggested that the contributions related to this agenda item should be resubmitted to the next meeting. Discussions in RRC email adhoc group should continue. It should however further discussed and clarified what has been agreed so far. New items should not be proposed on the reflector, the quality of the permanent documents should be improved.
Kaisu Iisakkila, Nokia, was assigned as rapporteur of the RRC email adhoc group.

The assignment of the not treated contributions to agenda items is listed below.

9.2.1 RRC connection management procedures

Not presented: R2-99417, R2-99481

9.2.2 RRC connection mobility procedures

Not presented: R2-99419, R2-99421, R2-99482

9.2.3 Radio Access Bearer Control Procedures

Not presented: R2-99381, R2-99386, R2-99387, R2-99420

9.2.4 RRC message parameters

Not presented: R2-99394, R2-99430, R2-99431, R2-99438, R2-99439

10 Liaison and output to other groups

No td issued **Draft LS to WD1 on clarification of possible AICH Nack to RACH Message Part and feasibility for UE to listen to AICH and FACH simultaneously (Lucent)**

Presented online with LCD projector by the chairman since a copy was not available.

Ericsson asked how the scheme would work with multiple transport blocks in a message.

This issue could not be clarified.

Decision: The proposed LS was approved with major changes.

R2-99466   LS from WG3 on DSCH support (3GPP TSG RAN WG3)

This LS was presented briefly before R2-99490 was treated. The LS was noted.

R2-99490   Draft reply to LS from WG3 on support of DSCH on Iur (Nokia)

Reply to R2-99466 stating that the case "DCH/DCH + DSCH" is the only solution considered by WG2 for release '99.

Alcatel expressed concerns regarding limitation on "DCH/DCH + DSCH" case for release 99. DSCH control channel should not be excluded since it is part of TS 25.301.

The chairman stated that it will not be possible to add a major feature after this meeting. He also referred to a note in TS 25.301 which states that not all cases may be included in the release 99.

Alcatel objected the way how this proposal is presented, since there was no discussion of the issue in this meeting.

The chairman commented that no other decision is possible when WG2 wants to keep the RAN rules.

Ericsson commented that since no MAC signalling in TS 25.321 is specified it would not be accepted in RAN at the next meeting anyway.

The chairman stated, the DSCH control channel would require a new protocol for allocation of capacity to a mobile. The case DCH/DCH + DSCH is just a multiplexing function, whereas for DSCH control channel allocation messages need to be defined.

Alcatel does not see that the DCH/DCH + DSCH is already finalised either, but admitted that there is less work to do. Alcatel then requested that the issue should be decided in the RAN meeting, and the respective sentence should be removed from the LS.

Alcatel again stated they regard the way this issue is handled here, to decide on removal of the DSCH control channel without discussion, is unacceptable.

Decision: The disputed sentence in the LS will be changed as follows: "After WG2 meeting #4, the only stable solution for the '99 release is DCH/DCH + DSCH". The following last sentence in that paragraph is removed.

Also the first sentence of the last paragraph is changed: "WG2 hopes that the clarification on the current status of the work in RAN WG2 helps WG3 in concentrating on refining aspects related to the DCH/DCH+DSCH solution to be incorporated into the standard".

The LS was approved with these changes. Final version is R2-99495.

The chairman noted that this issue will also be addressed in the WG2 status report to be presented to RAN. The status report will be sent in advance to allow for careful review.

R2-99492   Proposed LS to WG3 on Common Transport Channel management over Iur (Alcatel)

No comments given, approved. Final version of the LS is R2-99496.

R2-99474   Proposed LS to SA3 on 'Protocol aspects on the Integrity protection mechanism' (Nokia)

The chairman asked what the value of the "transport" column in the table would be.
Nokia replied that the column can be removed, the intention was to highlight the problem of integrity checksum addition for RACH. In the table it is not so valuable, and the text explains the problem.
Decision: the column "transport" was removed, and the LS approved with this change.
Final version of the LS is R2-99497.

R2-99472   Proposed LS to SA2 on interactions between MM and Radio Mobility (Nokia)

No comments were given. The LS was approved. Final version is R2-99498.

R2-99489   (Draft) Reply to WG1 on Access Cell Selection (Motorola)

CSELT proposed an addition to the fourth paragraph, that other similar schemes are still under discussion. The LS was approved with this addition. Final version is R2-99499.

R2-99475   Draft LS to WG1 on RACH payload requirements (Ericsson)

Siemens proposed that a reference to the Ericsson contribution that came to the presented result should be included
Alcatel noted that the HFN was identified as missing, a range of 17 to 20 octets would be better
Nokia replied that the HFN may not have to be sent in the first message.
Ericsson and Nokia prefer to provide a single value only as minimum requirement.
Nortel and Ericsson stated that there is still room for optimisation of the payload size.
Decision: The minimum required payload was changed from 17 to 20 octets.
Final version of the LS is R2-99500.

R2-99483   Draft reply to LS from RAN WG1 on FACH rates (Ericsson)

Siemens requested that then note to the table should be deleted.
The editor stated that it was just copied from the source, but that this table was not intended to be part of the final LS to WG1.
Alcatel commented that the transmission time interval size was not discussed.
Ericsson stated that a 10 ms time interval would be preferred.
Alcatel commented that with respect to interleaving performance e.g. 20 ms would be better.
The chairman noted that the resulting 40 kbps seems to be very huge, and asked why not 400 bits in 80 ms would be acceptable for the minimum message.
Alcatel commented that this is maybe a starting point, but it requires more discussion.
The chairman proposed that the LS should simply state that all rates 8 – 384 kbps should be supported (i.e. all rates that are supported for DCH), multiple FACH in a cell should also be supported, and that the minimum required rate for baseline terminal capabilities is still investigated. A simple LS with two sentences would be sufficient.

Decision: The proposal from the chairman was accepted. The exact formulation was left to the editor.
Final version of the LS is R2-99501.

R2-99428   (Draft LS) Clarification request on PLMN and radio access system and mode selection (Nokia)

Not presented.
Decision: This LS should just be used as an input to the upcoming handover workshop.

The chairman recommended that an e-mail discussion should start to prepare items presented at the handover workshop. CSELT proposed that TS 25.922, RRM strategies, should also be submitted to this meeting, which was agreed.

R2-99463   Proposed LS on terminal capabilities to TSG T WG2 (Motorola)

No comments were given. The LS was approved. Final version of the LS is R2-99502.

R2-99494   Draft LS to WG1 on discontinuous reception in Idle Mode (Ericsson)
No comments were given. The LS was approved. Final version of the LS is R2-99503.

Handling of the final liaison statements:
It was agreed that each editor of an LS shall send out the final version to the addressed receivers.

Discussion what shall be presented to RAN meeting #4:

The following WG2 contributions will be presented: status report, all permanent documents, work plan.

The WG2 status report will be sent out on the WG2 reflector as early as possible to allow for comments.

CRs to TS 25.301, TS 25.302, TS 25.303, TS 25.321 will be presented for approval to RAN#4.
TS 25.304 will be presented for information.
All technical reports will be presented for information.
RLC TS 25.321 will be proposed to be presented in July for approval (instead of June).
RRC TS 25.331 remains to be approved in December.

The chairman clarified the formal procedure of CR handling for RAN approved documents.
A CR shall relate to one category only. CR numbers will be issued by ETSI.

The following CRs to TS 25.301 will be presented:
WG2 CR#1 CPCH addition
WG2 CR#2 Modification of MAC functions
WG3 CR#3 Ciphering modification

WG2-approval of all documents presented to RAN#4 shall be done on the e-mail reflector.

The chairman proposed that all output documents from this meeting, including the permanent documents to be presented to RAN meeting #4 should be sent by Wednesday June 2, for final approval on the WG2 reflector. Agreement should be reached by Monday June 7.

11 Any other business

Next meetings:

#5   July 5 – 9, Sophia Antipolis (host: ETSI)
#6   August 16 – 19, Sophia Antipolis (host: ETSI)
#7   September 20 – 23, Malmö (host: Telelogic)
#8   November 2 – 5, no host
#9   December 5 – 10, no host (preferably same place as RAN#6 meeting (Sophia Antipolis)

Further preliminary meeting dates in year 2000:
#10   week 3   (January)
#11   week 9   (February, RAN#7 and SA meetings in week 11)
#12   week 15 (April)
#13   week 21 (May, RAN#8 meeting in week 23)
#14   week 27 (July)
#15   week 34 (August)
#16   week 40 (October, RAN#9 meeting in week 39)
#17   week 46 (November, RAN#10 meeting in week 50)

The chairman clarified that the output of WG2 in year 2000 is corrections of release 99 and the new release 2000 of the standard.

Summary of e-mail discussion groups:

Topic	Rapporteur
Cell selection, cell-reselection	Vodafone, Alan Law
RRC	Nokia, Kaisu Iisakkila
Random access backoff algorithm	Motorola, Steve Barrett
Broadcast/multicast	Mannesmann, Peter Krischan
Hybrid ARQ	Siemens, Armin Sitte
Protocol Methodology	Nokia, Juhana Britschgi
RRM Strategies	CSELT, Daniele Franceschini
RLC PDU block size	Vodafone, Alan Law
MAC signaling (TDD)	Interdigital, Steve Terry

12 Closing of the meeting *(5:30)*

The chairman thanked Siemens for hosting the meeting and closed it.

Appendices

Annex A: Minutes of the ad-hoc session on RLC specification

The minutes were taken by the ad-hoc rapporteur, Marco Mastroforti (CSELT).

The following documents have been discussed:
382,383,384,385,402,403,404,405,407,408

The following documents have not been discussed:
395,406,429,437

Discussion of the documents: 402, 382,383
Ericsson presented the change proposals paying more attention on the relevant changes on sections 9.2 and 8.1.

It was proposed to remove the following control PDUs : BGN, BGAK, BGREJ, END, ENDAK.

It was proposed to remove the following RLC primitives: CRLC-RELEASE, RLC-ESTABLISH and RLC-RELEASE.

Ericsson and Docomo agreed on removing these PDUs and primitives, because they are not compliant with the adopted RLC model.

Docomo pointed out that the removed primitives may be replaced by the CRLC-CONFIG primitive, which can be used for both establishing and releasing RLC peer to peer entities.

Siemens pointed out that CRLC-CONFIG primitives may be used also for reconfiguring RLC entities.

CSELT noted that the Ericsson and Docomo proposals are not aligned as far as the name of parameters are concerned.

Docomo said that it is available to accept the names proposed by Ericsson.

Decision: It was agreed, to accept the changes contained in tdocs 402,382,383. In particular, concerning the primitive parameters, the names proposed by Ericsson were adopted, with the inclusion of the new parameter E/R as proposed by Docomo.

Discussion of the documents: 385,408 (proposal for RESET/RESET ACK PDUs)
Docomo presented tdoc 385, specifying that we need this kind of PDUs to guarantee fast RLC protocol reset.

Ericsson presented the main differences between 385 and 408.

It has been noted that the proposal do not consider the possibility to reset the protocol in the case of Unacknowledged transfer mode.

Ericsson pointed out that does not see the need to reset UM entities. Furthermore the UM transport mode may be unidirectional and this prevent the possibility from sending back a RESET ACK PDU.

CSELT noted that the description of the new PDUs reported in the Ericsson's contribution is more complete than the one reported in Docomo tdoc.

Docomo agreed on accepting the PDU description proposed by Ericsson.

Nokia preferred, in the section 9.3.3.3, the name "Reset pending" instead of "Recovery pending" for the state number 3 of the model.

Decision: It was agreed to include in section 9.2 the PDU formats proposed by Docomo, with the rest proposed by Ericsson. In the section 9.3.3.3 the picture and the text proposed by Ericsson, will be included as well.

Discussion of the document 404 (RLC elementary procedure)

Ericsson presented the document.

A delegate proposed to include the retransmission process in the Acknowledgement data transfer procedure.

Ericsson replied that the retransmission is not an elementary procedure.

Concerning the poll procedure there was a discussion amongst delegates, focused on if the poll bit have to be set in each PDU of the transmission time interval or only in one PDU.

Some objections there were about the visibility of the retransmission time interval inside the RLC layer.

It was decided to mark FFS the content of the following sentence: "The poll bit is set in all PDUs transmitted in the same transmission time interval", and to remove from the figures each reference to the transmission time interval.

Siemens proposed to modify the figure 1, relative to the transparent mode, in order to address the SCCH channel.

Philips asked if the same thing have to be done in figure 2, relative to the unacknowledged mode.

Siemens replied that theoretically the SCCH should be addressed also for the unacknowledged mode; however, Siemens proposed to modify only figure 1.

Sony noted that the SCCH is not considered into the RLC model.

Siemens agreed on that but replied that it is not the case to modify what already agreed about the description of RLC model. Siemens remembered that from RLC point of view, SCCH should be considered as the BCCH or PCCH.

Decision: it was agreed to include the contribution in section 11 with some changes inside the figures as agreed during the discussion. It was agreed to consider FFS the content of the sentence reported above.

Discussion of the document 403 (estimated PDU counter)

Ericsson presented the document.

CSELT asked how much the complexity increase when implementing EPC.

Ericsson replied that the complexity is not a crucial point. A possible factor, which can contribute to increase complexity is the TFI which have to be visible inside the RLC layer. However this is necessary also to implement multiple PUs inside the PDU, therefore the EPC do not add any complexity from this point of view.

Philips: had some doubts about EPC mechanism and notwithstanding the Ericsson explanations, it shown strong perplexities about the efficiency and the need of implementing EPC.

Philips remembered that there are systems with variable bit rate which do not adopt EPC mechanism for scheduling the retransmission of a status report, therefore the EPC is not an essential requirement.

Ericsson replied that EPC is a possible mechanism for high variable bit rate systems such as UMTS. Ericsson is available to discuss contributions in order to improve, if possible, the EPC mechanism.

Philips asked for explanations about the relationship between EPC proposals and what originally contained in the ARIB specifications. It asked also clarifications on the differences about EPC mechanism and what already included in the section 9.7.1.6 (flow of retransmission).

CSELT noted that currently there is not any mechanism defined in 25.322 concerning the scheduling of the STATUS PDU retransmission, when some errors occurred in the ARQ mechanism.

Sony asked how to calculate the initial value of the EPC time set.

Ericsson said that EPC timer approximate the round trip delay (RTD) but it is not necessarily equal to the round trip delay.

Sony asked who is in charge of evaluating the RTD, one possibility is that the network measures the RTD and than broadcast this information.

Siemens said that this solution is practically improbable, the best think is that the UE estimates RTD on the basis of the previous signalling messages.

CSELT noted that this is not a crucial point, because there may be a number of possible way how to measure RTD but this is not important at this stage.

Decision: It was agreed to put a synthetic description of EPC mechanism in section 9.7 without including examples and figures. The text will reflect the fact that EPC is one of the possible way for scheduling the STATUS PDU retransmissions. It was accepted to put EPC in the toolbox (section 9.8). Of course, the possibility to have EPC as mandatory or not, will be considered in the future, as already stated for the other functions of the toolbox.

Discussion of the document 405 (Piggybacking mechanism)

Ericsson presented the document.

CSELT noted that in the case of Piggybacking the padding operation may be necessary as well.

Ericsson agreed and clarified that padding may be placed in the AM PDU after the piggybacked STATUS PDU, or it can be placed inside the Piggyback STATUS PDU.

Some questions there were concerning the differences between the new Piggybacked STATUS PDU and the STATUS PDU. It has been noted that the Piggybacked STATUS PDU do not contain the type field, while probably it is necessary.

Ericsson confirmed that the type field is not necessary for the Piggybacked STATUS PDU.

Docomo asked for clarification about the meaning of the term "Optional" referred to the Piggybacking mechanism.

CSELT and Philips said that optional is synonymous of "when necessary and possible".

Ericsson pointed out that the Piggybacking is optional for the Transmitter side while is mandatory for the Receiver side.

Siemens agreed on accepting the change proposals contained in the document, but he suggested to put somewhere in the 25.322 a short description about the Piggybacking principles.

Decision: It was agreed to introduce inside the 25.322 the following changes:
- 1- section 4.2.1.3: to update the figure relative to the AM-entity, and the relative text;
- 2- section 9.1: to update the RLC PDUs table;
- 3- section 9.2: to include the new Piggybacked STATUS PDU with the relative text.

The editor will find the best place where including the description of Piggybacking principle as suggested by Siemens.

Discussion of document 407 (RLC SDU discard)

Ericsson presented the document.

CSELT asked if the term "optional" in the presence field means "network controlled"

Ericsson confirmed that "optional" = "network controlled", and clarify that the network decides whether apply SDU discard function, and which operation mode to apply.

Philips asked clarifications about the criteria reported in section 2.2. In particular asked how the receiver may discharge PDUs in its receiver buffer.

Ericsson replied that the receiver too, has an inner timer that control the PDU discard function.

Philips pointed out that both timers on the TX and RX sides have to be set in the same way.

Ericsson confirmed that.

Siemens said that other criteria's may be found to control when to perform an SDU discharge and this should be reflected inside 25.322.

Siemens asked clarification about the Moving Receiving Window (MRW) command.

Ericsson confirmed that MRW acts as a pointer which jump the PDU to be discharged in the buffer.

There was a discussion on where including the description of SDU discard function inside 25.322.

CSELT proposed to include it into the toolbox.

Siemens replied that this is not the exactly what Ericsson has been proposed.

Ericsson confirmed that, and suggested to put it into the section 5 (RLC function).

Siemens noted that section 5 is not appropriate because there may be problems with the 25.301.

Philips proposed section 6 (services provided to the upper layer).

Ericsson proposed section 9.7 (Specific functions).

Decision: It was agreed to accept the document: the following changes on 25.322 have been proposed:

1-   section 9.7: to include a description of the SDU discard function, whit a sentence which reflect the possibilities to chose different possible criteria's for control the SDU discard function;

2-   section 9.2: to include the new type field concerning the STATUS PDU.

Discussion of document 384 (RLC confirm primitive)

Docomo presented the document explaining the reasons why we need this primitive.

Sony did not agree completely, about some motivations given by Docomo to justify the need of RLC confirm primitive.

Philips pointed out that there are a lot of RRC procedures that require a confirmation from RLC.

Ericsson pointed out that the aim of RLC confirm primitive is to inform upper layer " the upper layer message has been received correctly.

Some questions there were about the use of MUI parameters.

Philips said that MUI is necessary for specify which message unit the confirmation is referred to.

Decision: It was decided to remove inside section 8.1 of 25.322 the indication FFS relative to the confirmation primitive, and to include the description of the new primitive and its parameter.

Annex B: List of documents related to meeting #4

Reference	Title	Source	Agenda item	Comment
R2-99348	First draft version of 3GPP TSG RAN WG2 TR R2.05 v001: Opportunity Driven Multiple Access (ODMA)	Editor	4.2	
R2-99349	Agenda	Chairman	2	
R2-99350	Deliverables and Workplan	Chairman		not presented
R2-99351	Draft minutes of the 3GPP TSG-RAN WG2 meeting #3 v03 (13 – 16 April 99, Yokohama Japan)	Temporary Secretary	4.1	approved
R2-99352	Approved minutes of the 3GPP TSG-RAN WG2 meeting #3 (13 – 16 April 99, Yokohama Japan)	Temporary Secretary		
R2-99353	3GPP TS 25.301 v301: Radio Interface Protocol Architecture	Editor	4.2	approved
R2-99354	3GPP TS 25.302 v201: Services provided by the physical layer	Editor	4.2	approved
R2-99355	3GPP TS 25.303 v200: UE functions and inter-layer procedures in connected mode	Editor	4.2	approved
R2-99356	3GPP TS 25.304 v101: UE procedures in Idle Mode	Editor	4.2	approved
R2-99357	3GPP TS 25.321 v201: Description of the MAC protocol	Editor	4.2	approved
R2-99358	3GPP TS 25.322 v100: Description of the RLC protocol	Editor	4.2	approved
R2-99359	3GPP TS 25.331 v101: RRC protocol	Editor	4.2	approved
R2-99360	3GPP TR 25.921 v100:Guidelines and principles for protocol description and error handling	Editor	4.2	approved
R2-99361	3GPP TR 25.922 v012: Radio Resource Management Strategies	Editor	7.2	
R2-99362	3GPP TR 25.923 v002: Location Services (LCS) features	Editor	4.2	not presented
R2-99363	3GPP TR 25.925 v001: Broadcast/Multicast services	Editor	4.2	
R2-99364	3GPP TR 25.924 v002: ODMA	Editor	4.2	not presented
R2-99365	LS on ongoing work in T2 SWG5 – Multi-mode terminals	TSG T2	4.3	
R2-99366	Report of the current status on terminal capabilities	TSG-T2	4.3	
R2-99367	Agreed changes to 23.20 on flexible use of Iu	TSG-S2	4.3	
R2-99368	Liaison statement to TSG RAN WG 2 and WG 4 on monitoring of UTRA FDD cells	TSG RAN WG1	4.3	
R2-99369	Liaison statement to WG2 on additional CRCs	TSG RAN WG1	4.3	
R2-99370	Liaison statement to WG1 on clarification of Open loop power control in the uplink	TSG RAN WG4	4.3	
R2-99371	LS to WG1 on clarification on PC step sizes in the closed loop power control	TSG RAN WG4	4.3	
R2-99372	LS on Future definition of UE power classes	TSG RAN WG4	4.3	
R2-99373	LS on Feasibility of the CPCH Scheme for FDD proposed by GBT	TSG RAN WG1	4.3	
R2-99374	Relevance of speed measurements for location services	Mitsubishi Electric	7.3	not presented
R2-99375	Proposal for a MAC+RLC ciphering model	Alcatel	6.3	
R2-99376	Results from the RRC procedures ad-hoc group	Rapporteur (Ericsson)	5	
R2-99377	Answer for LS regarding the feasibility study for addressing mechanisms for the MAC protocol	TSG RAN WG3	4.3	
R2-99378	Criteria for Soft Handover Algorithm	CSELT	7.2	
R2-99379	3GPP TR 25.922 v011: Radio Resource Management Strategies	CSELT	4.2	approved
R2-99380	Results from the RRC parameter ad-hoc group	NTT DoCoMo	5	
R2-99381	Power control parameters	NTT DoCoMo	9.2.4	not presented
R2-99382	Proposal on removal of BGN/BGAK/BGREJ	NTT DoCoMo	9.1	
R2-99383	RLC control primitives	NTT DoCoMo	9.1	
R2-99384	RLC confirm primitive	NTT DoCoMo	9.1	

R2-99385	Proposal on RESET/RESET ACK PDU for RLC	NTT DoCoMo	9.1	
R2-99386	CN domain identifier in CN information elements	NTT DoCoMo	9.2.3	not presented
R2-99387	Change request to S25.331 to include a new procedure for 'Dynamic Resource Allocation Control of Uplink DCH'	Alcatel	9.2.3	not presented
R2-99388	Report from the methodology email discussion group	Nokia	5	
R2-99389	Report from the Ciphering email ad-hoc	Nokia	5	
R2-99390	Further clarifications of the MAC based ciphering solution	Nokia	6.3	
R2-99391	Inter RNC Cell Update procedure	Nokia	6.8	not presented
R2-99392	Proposed editor's update to 25.303	Nokia	6.8	
R2-99393	CR to 25.304, UE Procedures in Idle Mode	Nokia	8	
R2-99394	Change Request to S2.31 to add FAUSCH parameters to RRC message parameters list	Philips	9.2.4	not presented
R2-99395	Suspend & Resume to support hand over, channel type switching (updated)	Philips	9.1	partly discussed
R2-99396	Report of e-mail discussion "Radio Interface for Broadcast/Multicast Services" (R/M)	Mannes-mann	5	
R2-99397	Scope of TR 25.925	Mannes-mann	7.4	
R2-99398	TR 25.925: Reissue of SMS CB service	Mannes-mann	7.4	
R2-99399	Report of e-mail discussion on Radio Resource Management	Editor (CSELT)	5	
R2-99400	FACH scheduling, Prioritization and Queue Management	InterDigital	6	
R2-99401	Report of the RLC e-mail discussion	Ericsson	5	
R2-99402	Change Request of TS 25.322	Ericsson	9.1	
R2-99403	Estimated PDU Counter	Ericsson	9.1	
R2-99404	RLC elementary procedures	Ericsson	9.1	
R2-99405	Piggybacking of status information in RLC	Ericsson	9.1	
R2-99406	RLC Status PDU refinement	Ericsson	9.1	
R2-99407	RLC SDU Discard	Ericsson	9.1	
R2-99408	RLC Control PDUs: Reset/Reset Ack	Ericsson	9.1	
R2-99409	Restriction on Transport Formats on FACH	Ericsson		withdrawn
R2-99410	MAC tasks in the random access procedure	Ericsson	6.4	
R2-99411	MAC primitives	Ericsson	6.8	not presented
R2-99412	Cell selection and re-selection process	Ericsson	8	
R2-99413	Discontinuous reception in idle and connected mode	Ericsson	8	
R2-99414	Structure of system information	Ericsson	8	
R2-99415	Contents of RRC Connection Request	Ericsson	6.4	
R2-99416	Completion of the procedures for RRC connection establishment and re-establishment	Ericsson	6.8	
R2-99417	Proposed changes to the RRC protocol specifications regarding RRC connection establishment and re-establishment procedures	Ericsson	9.2.1	not presented
R2-99418	Inter-system handover for simultaneous IP and PSTN/ISDN domain services	Ericsson	6.8	
R2-99419	UE Measurement Concept for Intra-Frequency Measurements	Ericsson	9.2.2	not presented
R2-99420	Traffic volume measurements	Ericsson	9.2.3	not presented
R2-99421	Reporting events for UE internal measurements	Ericsson	9.2.2	not presented
R2-99422	Reply to TSG RAN WG2 Liaison Statement on Hybrid ARQ Type II/III	TSG RAN WG3	4.3	
R2-99423	Optimisation of procedure for DCH modification by using asymmetric channel reconfiguration	Nortel Networks	6.8	
R2-99424	Proposal RRM strategies	Telecom Modus	7.2	not presented
R2-99425	LS to TSG RAN WG2 on Common Transport Channel management over Iur	TSG RAN WG3	4.3	
R2-99426	Further Clarifications on Variable Rate Packet Transmission	Panasonic	6.2	
R2-99427	Radio Interface for SMS-CB	LGIC	7.4	

R2-99428	(Draft LS) Clarification request on PLMN and radio access system and mode selection	Nokia	8	
R2-99429	RLC SDL Model	Nokia	9.1	
R2-99430	Intra-frequency measurement events	Nokia	9.2.4	not presented
R2-99431	Measurement control parameters on the BCCH	Nokia	9.2.4	not presented
R2-99432	Abstract description of RRC messages	Nortel Networks	7.1	not presented
R2-99433	The CPCH compared with DCH allocation using the RACH	Philips	6.8	not presented
R2-99434	Report from email Ad Hoc on Hybrid ARQ	Siemens	5	
R2-99435	Timing Advance Mechanism for TDD	Siemens	6.8	not presented
R2-99436	Support of Fast DCA using MAC peer to peer communication	Siemens	6.8	not presented
R2-99437	Hybrid ARQ type II operation within the RLC protocol	Siemens	9.1	not presented
R2-99438	RRC parameters for the support of transmission diversity	Motorola	9.2.4	not presented
R2-99439	RRC procedures and parameters for gated transmission of uplink/downlink DPCCH in control only substate	Samsung	9.2.4	not presented
R2-99440	SA3 proposal for ciphering architecture	TSG SA WG3	6.3	
R2-99441	Open questions on ciphering	Vodafone	6.3	
R2-99442	Security Functionality in RAN	TSG SA WG3	4.3	same as R2-99456
R2-99443	Request for CPCH-related modification of S202	GBT	6.7	
R2-99444	Change Request for CPCH-related modification of S201	GBT	6.7	
R2-99445	Request for CPCH-related modification of S203	GBT	6.7	
R2-99446	Request for CPCH-related modification of S221	GBT	6.7	
R2-99447	CPCH Physical Layer procedures	GBT	6.7	
R2-99448	Firm handover over CPCH	GBT	6.7	
R2-99449	Overview of system-wide CPCH Access Procedures	GBT	6.7	
R2-99450	Overview of RRC-based bandwidth management for CPCH	GBT	6.7	
R2-99451	RLC scheme for CPCH	GBT	6.7	
R2-99452	Summary of e-mail CPCH discussions	GBT	5	
R2-99453	CPCH simulations	GBT	6.7	not presented
R2-99454	Prioritization and Queue management for DSCH, addition to InterDigital contribution	France Telecom	6.8	
R2-99455	Dynamic Persistence for Random Access	Motorola	6.4	
R2-99456	LS on Security Functionality in RAN	3GPP SA WG3	4.3	
R2-99457	Liaison statement on usage of GSM-only SIM Cards for 3G access	3GPP SA WG3	4.3	
R2-99458	Answer to liaisons from T1P1.5 on LCS architecture	ETSI SMG12 and 3GPP S2	4.3	
R2-99459	Liaison statement to RAN WG2 on the possibility of having Multi-carrier Cells	3GPP TSG RAN WG3	4.3	
R2-99460	Liaison statement to WG2 on FACH rates	3GPP TSG RAN WG1	4.3	
R2-99461	Liaison regarding the feasibility of the USCH for FDD	3GPP TSG RAN WG1	4.3	
R2-99462	Cell selection and re-selection process	CSELT	8	
R2-99463	Proposed LS on terminal capabilities to TSG T WG2	Motorola	10	
R2-99464				
R2-99465	Further questions for ciphering	Vodafone	6.3	presented as R2-441A at the meeting
R2-99466	LS from WG3 on DSCH support	3GPP TSG RAN WG3	4.3	
R2-99467	LS to SA3 on constraints on message payload	Nokia	10	not presented
R2-99468				
R2-99469	Liaison Statement on Access Cell Selection	TSG RAN WG1	4.3	

R2-99470	Restructuring of annex of 25.321	Siemens	6.8	not presented
R2-99471	Cell URA Update	Alcatel	6.8	not presented
R2-99472	Proposed LS to SA2 on interactions between MM and Radio Mobility	Nokia	10	
R2-99473	Comments on the abstract description of RRC messages	Nokia	7.1	not presented
R2-99474	Proposed LS to SA3 on 'Protocol aspects on the Integrity protection mechanism'	Nokia	10	
R2-99475	Draft LS to WG1 on RACH payload requirements	Ericsson	10	
R2-99476	Fast L1 NACK for RACH Data part	Lucent	6.4	
R2-99477	Proposed CR for 25.301 for the CPCH concept	GBT	6.7	
R2-99478	Proposed CR for 25.302 for the CPCH concept	GBT	6.7	
R2-99479	Proposed CR for 25.303 for the CPCH concept	GBT	6.7	
R2-99480	Proposed CR for 25.321 for the CPCH concept	GBT	6.7	
R2-99481	UE Capability Enquiry	Nokia	9.2.1	not presented
R2-99482	RACH Measurement Reporting	Nokia	9.2.2	not presented
R2-99483	Draft reply to LS from RAN WG1 on FACH rates	Ericsson		
R2-99484	<CR A002 revision 0 on 25.301>	Ericsson		not presented
R2-99485	<SMSCB service>	Mannes-mann		not presented
R2-99486	BCCH scheduling	Nortel Networks	8	not presented
R2-99487	Proposed version 2.1.0 of 25.302	Editor (Nortel Networks)	10	
R2-99488	Ciphering description	Alcatel	6.3	
R2-99489	(Draft) Reply to WG1 on Access Cell Selection	Motorola	10	
R2-99490	Draft reply to LS from WG3 on support of DSCH on Iur	Nokia	10	
R2-99491				
R2-99492	Proposed LS to WG3 on Common Transport Channel management over Iur	Alcatel	10	
R2-99493	LS on feasibility of AICH NACK to RACH Message Part and feasibility for UE to listen to AICH and FACH simultaneously	TSG RAN WG2	10	
R2-99494	Draft LS to WG1 on discontinuous reception in Idle Mode	Ericsson	10	
R2-99495	LS to WG3 on DSCH	3GPP RAN WG2		
R2-99496	LS to WG3 on Common Channels management over Iur	3GPP RAN WG2		
R2-99497	LS to SA3 on integrity protection	3GPP RAN WG2		
R2-99498	LS to SA2 on MM interaction with Radio Mobility	3GPP RAN WG2		
R2-99499	LS to RAN1 on access cell selection	3GPP RAN WG2		
R2-99500	LS to RAN1 on RACH payload	3GPP RAN WG2		
R2-99501	Reply to LS from RAN WG1 on FACH rates	3GPP RAN WG2		
R2-99502	LS to T2 on terminal capabilities	3GPP RAN WG2		
R2-99503	LS to WG1 on discontinuous reception in Idle Mode	3GPP RAN WG2		
R2-99504	LS to WG1 on the current status of the work in WG2 on measurements	3GPP RAN WG2		
R2-99505	LS to WG3 (copy WG1) on Hybrid ARQ type II	3GPP RAN WG2		
R2-99506	LS to WG3 (copy WG1) on multi-carrier cell	3GPP RAN WG2		

Annex C: List of Participants

	Company	Name
1.	ALCATEL	Blanc, Patrick
2.	ALCATEL	de Montgolfier, Remi
3.	AT & T	Plaigney, Patricia
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7.	BT	Hyman, Phil
8.	CSELT	Franceschini, Daniele
9.	CSELT	Mastroforti, Marco
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11.	ERICSSON	Granzow, Wolfgang
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32.	JAPAN TELECOM	Wakaki, Moto
33.	LGIC	Shin, SangRim
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40.	MOTOROLA	Balan, Dinesh
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51.	NOKIA	Vialen, Jukka
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56.	NTT DoCoMo	Satoh, Takaaki
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58.	PHILIPS	Dumazy, Jean
59.	PHILIPS	Herrmann, Christoph
60.	QUALCOMM EUROPE	Willenegger, Serge
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62.	SAMSUNG	Kim, KyouWoong
63.	SAMSUNG	Lee, Hyun
64.	SAMSUNG	Mun, HyunJung
65.	SAMSUNG	Park, Sanghwan
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68.	SIEMENS K.K.	Koizumi, Masahiro
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71.	SIEMENS	Öttl, Martin
72.	SIEMENS	Schniedenharn, Jörg
73.	SIEMENS	Sitte, Armin
74.	SIEMENS	Traynard, Jean-Michel
75.	SIEMENS ATEA	Vinck, Bart
76.	SONY	Kornprobst, Stefan
77.	ST MICROELECTRONICS	Reddy, Swojanya
78.	SYMBIONICS	Higgs, Ian
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81.	TELIA AB	Ernström, Per
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83.	T-MOBIL	Pütz, Dr. Stefan
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85.	VODAFONE GROUP	Law, Alan
86.	VODAFONE GROUP	Wright, Tim
87.	VTT	Latvakoski, Juhani