TSG-RAN Meeting #14 ***RP-010809***
Kyoto, Japan, 11 - 15 December 2001

3GPP TSG_CN(4)/_RAN(3) ***ad-hoc on M3UA/SUA***
Helsinki, Finland td RC-010011
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Source: **ad-hoc chairman**
harald.dettner@icn.siemens.de

Title: **Draft Minutes ad-hoc RAN(3)&CN(4) on M3UA / SUA for Rel5**

Summary

Goal of the meeting was to try to find a compromise solution or a way ahead for the dead-end discussion on M3UA vs SUA vs option reduction.
The proponents of the various position sticked to their position so that in the end no compromise could be achieved.
The proposal to allow in RAN M3UA&SUA and in CN M3UA only was closest to a compromise but finally failed.
Because of this it was agreed to prepare for the potential voting during TSG_RAN#14.
It was proposed not to go for a voting in TSG_CN#14. CN decisions will naturally be influenced by the results of the RAN-voting.
For voting itself it was proposed to go for a 2 step voting; sorting out in the 1st round whether one or two options should be available and in the 2nd round sorting out then what to do in detail in which case (see decision tree end this document).
Generation of agreed list of pros and cons per proposal failed since the other camp most often contested claimed advantages/disadvantages.

1 Meeting opening

Harald Dettner opened the meeting. Seppo Kauntali, Nokia, warmly welcomed the delegates in rainy/snowy Helsinki and explained the logistics of the meeting.

2 Adoption of agenda

RC-01001 Draft agenda (ad-hoc chairman)

Harald presented the draft agenda. With some additional explanations the agenda was agreed.

Discussion: Harald explained the mandated of the meeting along the cited statements from the various reports (see td#1). It was further reminded that this is the first time that RAN(3) and CN(4) meet on this very subject. Given this goal of the meeting is to try to find a compromise spanning CN and RAN interests. If no compromise can be achieved it shall be prepared for a potential voting at TSG#14. The question whether to vote at RAN#14 and / or at CN#14 was postponed to the afternoon 08th November (second day).
As targed date for finding a compromise lunchtime the 2nd day was settled.
It was finally reminded that all results of this ad-hoc have to be confirmed by the ordinary TSG resp. working groups (RAN(3) and CN(4).
Decision: with the explanations above the agenda was agreed.

3 Status assessment

In addition to the planned status reports from RAN3 and CN4 a report from IETF SIGTRAN was announced (see RC-010007).

It needs to be mentioned that the presented status reports are not "official" status reports of the groups but more "voluntary" contributions just to give information to the group and drive the issue.

3.1 Status in TSG_CN WG CN4

RC-010006 CN4 Status report (Motorola, Nokia)

John (John Loughney, Nokia) presented the document. He stated that - even in absence - Motorola want's to be added as Co-Source of this document.

The document reflects in brief the actual status situation on M3UA/SUA in CN4.

Discussion:

The mandatority of M3UA in CN was questioned. Alf (Alf Heidermark, Ericsson) explained that in CN4 M3UA is included in the specs from Rel4 onward because of its possible usage for ISUP and BICC. It was further explained that ISUP and BICC are "direct" M3UA users (without intermediate SCCP resp SUA) and hence M3UA is a must from CN4 perspective. Elena (Elena Garcia Mendive, Ericsson) elaborated that from ISUP perspective M3UA is mandatory if IP transport is used.
For the RAN colleagues it was further clarified on which interfaces ISUP protocol is used.

With regard to the maturity of the feasibility study performed in CN4 it was hinted to the open points which are in essence the lists of advantages / disadvantages per proposal. On this no consensus was achieved in the previous CN4 meetings.

Even though theoretically the possibility exists to remove M3UA from the CN-specs and substitute it by other means this is not seriously discussed in CN4 and is no option for Rel5 from CN4 perspective.

As soon as questions touched statements about advantages/disadvantages of one of the proposals the discussion because non-conclusive.

Finally it was agreed that this status report is written by a company which has own interests in this area and hence some "company flavor" for some of the contained statements is natural. With regard to this the title is slightly misleading, 100% neutrality can not be expected.

Decision:

With clarification about the company flavor of this report the status report was accepted.

3.2 Status in TSG_RAN WG RAN3

RC-010003 RAN Status report (Nokia)

Sami (Sami Kekki, Nokia) presented this contribution, which summarizes for this ad-hoc meeting the past activities of RAN3 on the subject.

Discussion:.

With regard to the New York status (RAN3 meeting begin Nov'01 there) it was stated that the inter-working issue is technically correct reflected.

The question was raised why M3UA was element of RAN Rel99 but not SUA even though only 3 months time difference (IETF perspective) are between both protocol stacks. It was explained that Rel'99 was important because of Radio and IP-transport should not be delay because of this hence the at that point in time available M3UA was included and nothing else.

John – as editor of SUA specification in IETF - gave some historical clarification on the genesis of M3UA and SUA in IETF. Sigtran started fall 98 will SS7 protocol stack replacements via IP. This year IETF has had a 1st bake off on M3UA where several bugs were identified, a 2nd bake off on M3UA is planned for early 2002. For SUA a 1st bake off is scheduled for Nov 2001.

Some more historical IETF aspects on M3UA resp SUA can be found in RC-010004.

The "neutrality" of this status report was questioned as similarly was done for the CN4 status report treated before. Also for this document it has to be mentioned that is a companies sourced contribution which has some "company flavor" in it.

Decision:

With clarification about the company flavor of this report the status report was accepted.

3.3 Others / Status in IETF

RC-010007 email exchange CN-Chair <S. Hayes> – IETF Transport Area Directors <L. Ong & S Brandon> (CN-chair)

John presented this document which informs about the actual state of M3UA and SUA work in IETF.

The request was issued by the TSG_CN chairman and the response is written by the two area directors (Lyndon Ong and Scott Brandon?) in charge of transport area within IETF. In summary none of the two protocols is "formally" approved/available from IETF perspective (RFC status unrealistic for 2001).

Discussion:

It was clarified that the mentioned IPSP – to –IPSP issue applies to both proposals.

The discussion which was also repeated during RC-01003 and RC-010006 discussion focused on the maturity of both protocols. Both camps brought forward their arguments to claim that "their protocol" is more advanced (ie closer to RFC) than the other. Arguments for M3UA were:
started earlier, bugs from 1st bake-off removed, 2nd bake-off scheduled; arguments for SUA were: started later but has nowadays-similar quality→ took over, no severe problems reported just this week before the 1st SUA bake-off.

It was noted that the 1st SUA bake-off is scheduled for the week of this ad-hoc and wrt to SUA-maturity-assessment it would have been better to have had this ad-hoc 1 week later.

Finally the group concluded that no clean/clear/official statement could be given on the maturity of the adaptation layers in IETF. All further argumentation in one or the other direction is like a company colored look in a crystal ball.

Decision: The document was noted; no valuable information can be derived from it for the actual discussion.

RC-010004 IETF status report (Nokia)

John who is the SUA editor in IETF presented the document. In content this document describes the goals of M3UA and SUA from IETF perspective as well as current status and a historical summary are given.

Discussion:

Some clarifying questions were raised and answered by John.

The discussion on maturity of each of the proposals ended as usual in the nirvana.

With regard to RAN3 activities it was questioned what the status of the activity in RAN3 is to remove M3UA from Rel'99 resp Rel4. Martin (Martin Israelson, Ericsson) the Chairman of RAN3 explained that this exercise is not yet completed and no outcome can be predicted. Nevertheless since Ericsson indicated that they already have a product planning started for RAN M3UA it seems to be a rather difficult exercise to remove this option from Rel 4 specs. Finally it was concluded that this issue is task of RAN3 and this ad-hoc has no mandate to decide anything on this aspect.

Decision:

With the to some "company flavor" the document was very welcome to give best as possible status information, formally the document was noted.

4 Pros and Cons per proposal

RC-010002 Signaling Transport in the 3GPP Networks for Release5 (Alcatel, Ericsson, Fujitsu, Lucent, Siemens)

The paper lists several pro's and cons and comes in the end to the conclusion to allow M3UA as the only option for Rel5.

Discussion:

Challenged issues were:

- Maturity of M3UA resp. SUA (which is an existing telco standard?)
- SUA is superior to M3UA; only little advantage.
- Cost of parallel protocol stacks.

Nokia doubted that M3UA is needed for support of BICC (ie. BICC over Q.2150.1 over M3UA). There may be other options to transport BICC, eg. STC over SCTP (Q.2150.3) could be an alternative. Following clarifications were given on this:

Clarification 1: Replacement of M3UA by Q.2150.3 has never been discussed in RAN4.
Clarification 2: In CN4 is an option to use STC over SSCOP (Q.2150.2) for BICC.
Clarification 3: For ISUP, there is no alternative to M3UA.

Clarification 4: ISUP has to be there for connection to PSTN
Clarification 5: For connection of MSC to older GSM-MSC, ISUP may be used in CN

Nokia/Nortel identified a problem that peer-to-peer signaling may be out of the scope of the IETF SIGTRAN group. If peer-to-peer is not part of IETF (more or less for both, M3UA and SUA), then the protocols are more or less not usable for 3GPP purposes. (For SUA, peer-to-peer signaling is currently in the draft, but may have to be removed if a IESG decision requests to do so).

Concern was expressed on the argumentation that interworking M3UA to SUA (which has to be provided) will cause problems and destabilizes the configuration and hence should be prevented.

Finally no consensus was found on the view expressed by this document

Decision:

The document was noted.

RC-010005 SUA for Release5 -- Benefits (Motorola, Nokia)

Sami presented this lately arrived contribution. The document proposes that SCCP-User Adaptation protocol (SUA) is used in Rel5 UTRAN as the adaptation protocol for all SCCP Users. In Rel5 CN it is proposed to allow both SUA and MTP3-User Adaptation protocol (M3UA).

Discussion:

As element of clarification Sami explained that the proposal includes to remove M3UA from Rel5 RAN specifications. It was left open/vague whether M3UA should/shall be removed from earlier releases of the RAN specifications.

Sami explained further that it is Nokia's view in this respect to allow greenfields and startups an all-IP scenario including eg independence of "old fashioned" SS7 point code addressing.

The smoothness of the Rel4 Rel5 change is questioned if a complete swap is done from Rel4 M3UA to Rel5 SUA. Nokia agreed that interworking has to be provided and some elements wrt this may have to be specified "but this can be made happen".
Nokia agreed that interworking Rel5 SUA with Rel4 M3UA needs consideration and also product upgrade from Rel4 to Rel5 is a severe issue, which needs further consideration.

John clarified that compatibility/interworking is always assured because drop back to MTP SS7 is always possible and this drop back to SS7 is a base commitment of the IETF work on M3UA and SUA.

The M3UA/SUA situation was more compared with the change from SCCP Blue Book to SCCP White Book which was rather an evolution than a replacement of something.

Ericsson stated that "all-IP" is not necessarily SUA, M3UA is already also "all-IP".

Again Ericsson doubted the listed advantages of SUA.

With regard to interoperability/compatibility to elder releases Nokia agreed in the end that at least some elements of M3UA need to be specified even in a SUA only Rel5 RAN-world.
This concluded finally in a change of their position on Rel5 RAN work to see now SUA as a additional option beside M3UA. Nevertheless it was stated that Motorola may insist on the SUA only option for Rel5 but due to their absence in this meeting it was impossible to get this clarified during this ad-hoc meeting.

Decision:

Similar to the document of the other camp (RC-01002) this document was noted.

The end of the 1st day some expressed positions (without any binding) were casted:

Nortel: sees their position somewhere in between the two extremes.

Nokia expressed that postponement of SUA to Rel6 is not acceptable.

Vodafone repeated not to want SUA in the core network

Ericsson clearly spoke in favor of M3UA only in RAN&CN

Sonera would accept SUA optional here and there and sees no problems.

Cisco wants to see the possibility for SUA.

Lucent prefers definitely the "only one" option but showed flexibility, which of the two it should be.

Siemens preferred the M3UA option but would accept some kind of compromise if achievable.

The 1st day of the meeting focused on presentation of all available documents while the morning of the 2nd day was dedicated to discuss potential compromises and/or sort out probability of some of the alternatives.

5 The Highest Goal / Areas of Potential Compromise

To base the discussion on some document it was agreed to draft a table that contains all possible options. By walking through this table is may be possible to identify higher resp. lower probable options and come closer to some conclusion.

RC-010009 Method to describe the various alternatives (chairman)

Harald presented this document which in essence is just two alternate ways to list all possible options. Either a table with 4 columns can be used (RAN SUA, RAN M3UA, CN SUA CN M3UA) and you have to tick what you want or you have a table with just 2 columns (RAN and CN) and more text has to be inserted.

Irrespective of which presentation method was chosen there exist in principle 3*3 = 9 options, ie M3UA or SUA or both per RAN or CN in all possible combinations.

Decision:
The second table within this contribution was chosen as basis for further discussions.

Remark: The original document RC-010009 on which the discussion started is no longer available. As the discussion started and editing work on the document began, the chairman forgot to copy/save the original version of the document hence what is stored as RC…9 is already some intermediate discussion version. (Sorry for that ;-))

RC-010008 SUA – M3UA in Rel5 UTRAN&CN: Decision table for RAN (Nortel)

Philippe (Philippe Godin, Nortel) presented the document. In comparison to RC-010009 the proposed table differentiates within the RAN further between Iu and IuR interface. This would allow a further refinement of the alternatives, which allows some more degrees to find a compromise.

Decision:
Even though the proposal was welcomed it was finally rejected. The further discussion will be based on the 2nd table of RC….9

Open discussion on the options listed in table2 of RC-010009

The options 7,8,9 with SUA only for CN were immediately ruled out, nobody realistically sees this option that never was discussed seriously in CN4.

The option2 was further subdivided, the idea of having both “available” but only one “present/active” was introduced as a new element.

The SUA only option for RAN (3 and 6) was for completeness purpose further subdivided in/-excluding removal of M3UA from Rel4.

The removal of M3UA from RAN Rel4 was seen very skeptical, but seems to be logical consequence if SUA only is requested for RAN Rel5. Motorolla is here the only party to defend this position. Others acknowledged that because of interworking with M3UA equipment of Rel4 gateway functionality is needed and compatibility would be a real issue.

Some dispute arose on the philosophy of standardization in 3GPP. It is a superset philosophy where only features are added release by release or could eg RAN Rel5 specs contain SUA only and M3UA would be covered by previous specification releases. This discussion was concluded with clarification for the superset principle. Only in cases where nobody wants to have a feature in any case it is possible/allowed to extinguish it from the specs. (The example of Shared interworking function (SIWF) from TSG_CN#14 was given.)

In summary this means that SUA only in RAN is only consistent/clear/ clean with removal of M3UA from previous releases which has on the contrary low probability to succeed because of already started product planning (eg stated by LME). SUA only in Rel5 with M3UA in Rel4 causes the compatibility and interworking issues.

Nortel addressed the aspect of equipment upgrade if swap from Rel4 M3UA to Rel5 SUA is performed. Nokia replied that interworking is always possible via drop back to SS7 but whether this really covers the upgrade situation was re-questioned again.

The discussion on mandatory vs optional gave no clear results. With regard to the IP v4/IP v6 discussion RAN has had in summer voices were expressed to make SUA mandatory in the same spirit; on the contrary the "M3UA camp" claimed to make M3UA mandatory and allow only SUA as additional option possibility.

A try from Thomas Ulrich to explain by cited text the difference of mandatory optional didn't bring sufficient clarification.

In summary the playing with mandatory | optional added some flexibility and removed some expressed concerns, but finally helped nothing to reach a consensus/compromise solution.

The option 4 (M3UA only on RAN and SUA&M3UA in CN) was deleted because nobody expressed interest in this option.

The proposal 2.2 was until lunch closest to a compromise but with the clear statement of Ericsson to prefer the M3UA only option (Option1) the compromise collapsed, even no further questions were necessary whether the other would have accepted this compromise.

RC-0100010 SUA – M3UA discussion table (chairman & group)

The document is the outcome of the morning discussion including all relevant statements edit in RC…9 which was used as starting point.

Just to reflect the opinions of the group (no juridical binding) a cast of opinions was collected "who could accept/life with" which option. This view is contained the comments/Supporters column. The word supporter is a bit misleading in this context, the question was more raised in the spirit "I can life with…".

"RC-010010 end of meeting.doc"

6 Further Steps / Voting Preparation

Since no compromise was achieved until lunch the 2nd day the afternoon was used to prepare for a potential voting.

The voting shall take place at TSG-RAN#14, no voting shall take place at TSG_CN#14. Nevertheless it can be assumed that the RAN voting result will have some signaling influence on the CN4 discussions.

It was clarified that the voting and the phrasing of the voting questions is up to the chairman of the respective group, in this case (Francoise Courau) as RAN-chair.

The mandate of this ad hoc is just to give the chairman an opinion of the group in the spirit of a recommendation. The final decision of the voting details is up to the chairman.

No detailed list with pros and cons per proposal were generated during the meeting. As soon as one camp claimed benefits for one option, the other camp questioned this.

Finally it was agreed that a list of pros and cons per proposal could be adopted from the feasibility study 29.903 where the most actual version can be found in CN4 document (N4-011238). It has to be mentioned that even this feasibility study holds in the relevant sections (10 & 12) statements that these sections are not agreed within CN4.

Preparation for potential voting:

For the voting itself it was proposed to have a 2-step voting following the below sketched decision tree. Proposals for the voting questions are (see also online drafting document RC-010010):

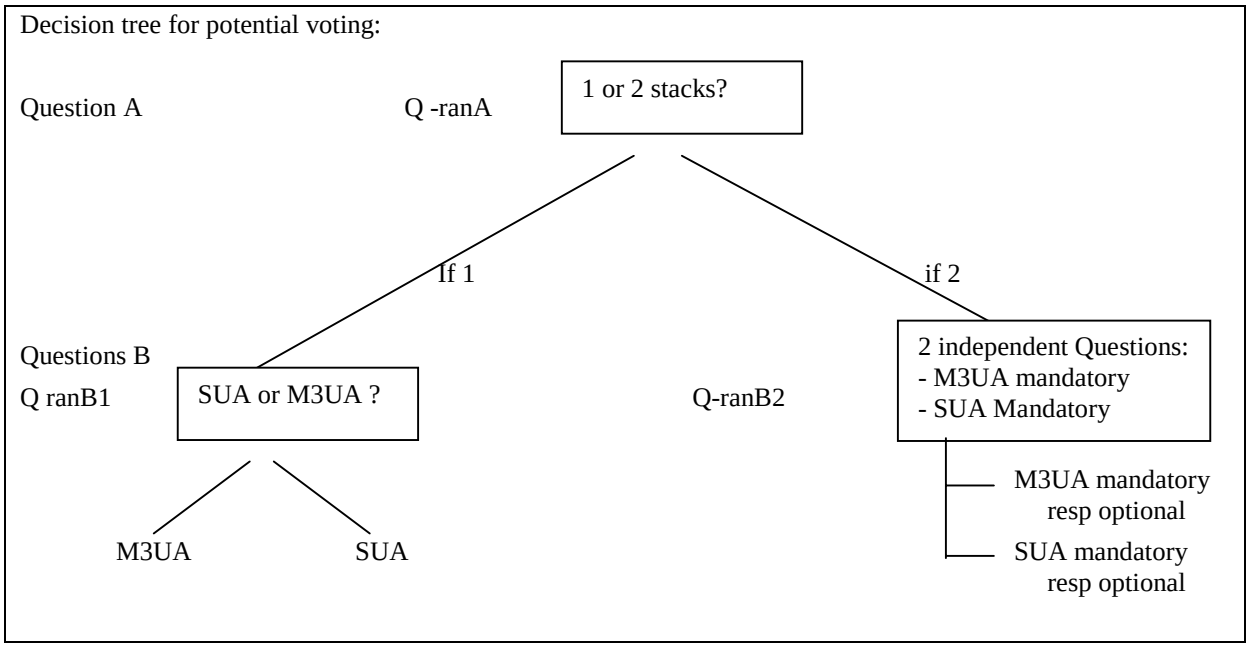
Q-ranA
Do you want to have both protocol stacks (M3UA & SUA) in RAN Rel5?

Q-ranB1
Do you want to have SUA*) as the only protocol stack?
or vice versa
Do you want to have M3UA as the only protocol stack?
*) SUA only includes Interworking with Rel4 M3UA Networks (and removal of M3UA from Rel5)
Which of the above question has to be sorted out with/by the RAN-chairman.

Q-ranB2 → 2 independent questions

- Shall SUA be mandatory in RAN Rel5
- Shall M3UA be mandatory in RAN Rel5

The decision tree was sketched on a flip chart, which is hopefully transferred correctly in this electronic format.



7 Meeting Close

The chairman thanked Nokia once more for the excellent arrangements for this meeting, which was organised on relatively short notice. With the wish for save journeys to all the delegates the meeting was closed Thursday 08th November 16:00 o'clock.

Annex

Annex 1 Documents

RC-0100001	Draft agenda (ad-hoc chairman)
RC-0100002	Signalling Transport in the 3GPP Networks for Release5 (Alcatel, Ericsson, Fujitsu, Lucent, Siemens)
RC-0100003	RAN Status report (Nokia)
RC-0100004	IETF status report (Nokia)
RC-0100005	SUA for Release5 -- Benefits (Motorolla, Nokia)
RC-0100006	CN4 Status report (Motorolla, Nokia)
RC-0100007	email exchange CN-Chair <S. Hayes> – IETF Transport Area Directors <L. Ong & S Brandon> (CN-chair)
RC-0100008	SUA – M3UA in Rel5 UTRAN&CN: Decision table for RAN (Nortel)
RC-0100009	Method to describe the various alternatives (chairman)
RC-0100010	SUA – M3UA discussion table (chairman & group)
RC-0100011	This draft report (chairman)

Annex 2 Participants List

Name Organization Organization Represented Phone/ Fax E-mail

Aikawa, Shinichiro Fujitsu Limited Fujitsu Limited Phone : +81 44 754 4196
Fax : +81 44 754 4148 aikawa@ss.ts.fujitsu.co.jp

Berg, Markus ALCATEL S.A. ALCATEL S.A. Phone : +49 711 821 47464
Fax : +49 711 821 41177 ma.berg@alcatel.de

Berry, Nigel. H Lucent Technologies N. S. UK Lucent Technologies Network Systems UK Phone : +44 1793 88 3245
Fax : +44 1793 88 3244 nhberry@lucent.com

Canete, Antonio ERICSSON L.M. Telefon AB LM Ericsson Phone : +34 91 339 2460
Fax : +34 91 339 2906 Antonio.Canete-Martinez@ece.ericsson.se

Dettner, Harald SIEMENS AG SIEMENS AG Phone : +49 6621 169 169
Fax : +49 6621 169 122 harald.dettner@icn.siemens.de +49 6621 169-111

Garcia-Mendive, Elena ERICSSON Eurolab Telefon AB LM Ericsson Phone : +49 2407 575 205
Fax : +49 2407 575 477 elena.garcia-mendive@eed.ericsson.se

Godin, Philippe NORTEL NETWORKS (EUROPE) NORTEL NETWORKS (EUROPE) Phone : +33 1 39 44 89 40
Fax : +33 1 39 44 52 52 pgodin@nortelnetworks.com

Hämäläinen, Pekka ERICSSON L.M. Telefon AB LM Ericsson Phone : +358 9 299 2131
Fax : pekka.hamalainen@lmf.ericsson.se

Hamel, Eric France Telecom Cisco Systems Europe Phone : +33 1 45 29 68 63
Fax : +33 1 45 29 43 99 eric.hamel@rd.francetelecom.com

Heidermark, Alf ERICSSON L.M. Telefon AB LM Ericsson Phone : +46 8 72 738 94
Fax : +46 8 64 782 76 alf.heidermark@uab.ericsson.se

Israelsson, Martin ERICSSON L.M. Ericsson Incorporated Phone : +46 8 7641199
Fax : +46 8 58530800 martin.israelsson@era.ericsson.se

Kauntola, Seppo NOKIA Networks Oy NOKIA Corporation Phone : +358405569959
Fax : +358718030163 seppo.kauntola@nokia.com

Kekki, Sami NOKIA Corporation NOKIA Corporation Phone : +358 405702350
Fax : +358 9 5116 5039 sami.kekki@nokia.com

Laukkanen, Jussi SONERA Corporation SONERA Corporation Phone : +358405602777
Fax : +358204064365 jussi.e.laukkanen@sonera.com

Loughney, John NOKIA Corporation NOKIA Corporation Phone : +358504836242
Fax : john.loughney@nokia.com

Mäkeläinen, Klaus SONERA Corporation SONERA Corporation Phone : +358204063246
Fax : +358204066734 klaus.makelainen@sonera.com

McWilliams, Brendan VODAFONE Group Plc VODAFONE Group Plc Phone : +44 1635 676264
Fax : +44 1635 234916 brendan.mcwilliams@vf.vodafone.co.uk

Miah, Babul Lucent Technologies Lucent Technologies Network Systems UK Phone : +44 1 793 883 931
Fax : miah@lucent.com

Musikka, Nilo ERICSSON L.M. Telefon AB LM Ericsson Phone : +46 8 757 2153
Fax : +46 8 751 6928
Paglino, Roberto OMNITEL OMNITEL Pronto Italia SpA Phone : +39 0125 62 4671
Fax : +39 0125 62 4727 roberto.paglino@omnitel.it
Schmitt, Peter SIEMENS AG SIEMENS AG Phone : +49 66 211 69 152
Fax : +49 66 211 69 225 peter.schmitt@icn.siemens.de
Shen, Donglin AT&T Wireless Services, Inc. AT&T Wireless Services, Inc. Phone : +1 425 580 7614
Fax : +1 425 580 6880 donglin.shen@attws.com
Tamura, Toshiyuki NEC Corporation NEC Corporation Phone : +81 471 85 6706
Fax : +81 471 85 6962 tamurato@aj.jp.nec.com
Ulrich, Thomas SIEMENS AG SIEMENS AG Phone : +49 30 386 23372
Fax : +49 30 386 25548 thomas.ulrich@icn.siemens.de Yes