**3GPP TSG CN Plenary Meeting #14**                                   **NP-010605**
**Kyoto, Japan, 12<sup>th</sup> –14<sup>th</sup> December 2001**

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| **Source:** | **CN4 Chairman** |
| **Title:** | **3GPP TSG CN WG4 Status Report** |
| **Agenda item:** | **6.4.1** |
| **Document for:** | **INFORMATION** |

## 1    Introduction

CN4 have had two meetings since the last CN plenary meeting: CN4 #10 was held in Brighton, UK, on 15 – 19 October, kindly hosted by BT and Vodafone with support from Hutchison 3G, Lucent Technologies and Orange, and CN4 #11 was held in Cancún, Mexico, on 26 – 30 November, kindly hosted by the North American Friends of 3GPP. CN4 #10 was chaired by one of the vice-chairmen, Peter Schmitt (Siemens), because the CN4 chairman was sunning himself in Greece, and the other vide-chairman, Toshiyuki Tamura (NEC) was unable to travel in the aftermath of the events of 11 September. The CN4 chairman, Ian Park (Vodafone) returned to his duties for CN4 #11; Toshiyuki Tamura (NEC) chaired a strenuous drafting session on the SUA feasibility report (of which more later). Kimmo Kymäläinen (MCC) was on good form to provide support. The level of activity increased after the summer lull: in CN4 #10 we reviewed **218** documents and produced **69** CRs, **11** Liaison Statements, and **1** revised Work Item; in CN4 #11 we reviewed **210** documents and produced **46** CRs, **4** Liaison Statements, **2** TSs for information and **1** TR for approval. There were **38** participants representing **23** companies in CN4 #10 and **31** participants representing **23** companies in CN4 #11.

The meeting report of CN4 #10 was approved in CN #11; the draft meeting report of CN4 #11 was distributed to the CN4 Email List 3GPP_TSG_CN_WG4@list.etsi.fr and will be submitted to the next CN4 meeting for approval. The CN4 #09 meeting reports are provided in Tdoc NP-010606 for information. The CN4 outgoing Liaison Statements are provided in Tdoc NP-010607 for information.

## 2    Management summary

The level of corrections against UMTS Release 99 continues to be higher than is comfortable, both in terms of the meeting time it occupies and the lack of stability of the specifications. CAMEL phase 3 is the clear leader of the pack, with handover (especially between 2G and 3G access) a respectable(?) second; this may indicate that implementers are discovering the wrinkles as they try to use the CAMEL phase 3 specifications! By contrast, CN4 are being strict about changes to GTP for Release 99, and several changes which were submitted for Release 99 were deferred to Release 4 or rejected altogether.

In Release 4, the majority of change requests were directed to the Bearer independent CS core network (it should be noted that the 11 CRs in this group do not include mirror CRs, whereas almost all Release 99 CRs have counterparts in Release 4, and some in Release 5 as well).

In Release 5, we have made good progress in dealing with the impact of Intra-domain connection of RAN nodes to multiple CN nodes on CN4 specifications: CRs to 23.003 and 29.060 are presented for approval, and we expect to complete the work with a CR to 23.012 at CN #15. We have also made some minor improvements to CN4 specifications for Release 5, either to track changes in specifications from other working groups or to remedy shortcomings in earlier releases which were not serous enough to warrant corrections to those releases.

One of the main Release 5 activities in CN4 has been the work on the protocol for the Cx (HSS-S-CSCF) interface. TS 29.228 and 29.229 are presented for information, and we have a good chance of being able to present them for approval to CN #15.

The other major Release 5 activity has been the feasibility study on the use of SUA for transport of BSSAP+, CAP and MAP over IP; here the story doesn't have a happy ending, and although the report is presented for approval, CN4 have not been able to reach agreement on a recommendation whether or not to proceed with the specification work (see section 3).

As section 6.2 indicates, there are many areas where the work plan shows CN4 as being responsible for activity to progress the work on Release 5, but we have not been able to make progress, either because we need input

from other groups (particularly SA3) or because companies represented in CN4 have not provided any contributions. The acronym may be new, but the message behind it is not: LILO (Lack of Input, Lack of Output)!

# 3    Questions for advice and decision

Tdoc NP-010608 presents a question for advice and decision from CN plenary on handling the result of the SUA feasibility study report (NP-010633)

# 4    Change Requests

CN4 produced 115 Change Requests which are submitted for ratification. An overview of the CR packages is provided in Table 1. Corrective CRs to Release 4 and earlier were agreed by consensus, unless there is an indication to the contrary.

**Table 1: CRs submitted by CN4 for approval at CN #13 (sorted by work item)**

| Tdoc | Agenda item | Subject |
|------|-------------|---------|
| NP-010609 | 7.2 | 16 CRs on CAMEL phase 3 (R99) |
| NP-010673 | 7.2 | 2 CRs on CAMEL phase 3 (R99) |
| NP-010610 | 7.13 | 5 CRs on GTP enhancement (R99) |
| NP-010611 | 7.14 | 12 CRs on Handover (R99) |
| NP-010612 | 7.15 | 2 CRs on GSM-UMTS interworking (R99) |
| NP-010613 | 7.16 | 6 CRs on Location Service enhancements (R98) |
| NP-010614 | 7.16 | 4 CRs on Location Service enhancements (R99) |
| NP-010615 | 7.18 | 2 CRs on Multicall (R99) |
| NP-010616 | 7.22 | 13 CRs on TEI (R99) |
| NP-010617 | 7.23 | 8 CRs on Supercharger (R99) |
| NP-010619 | 8.3 | 10 CRs on Bearer Independent CS Architecture (CSSPLIT) |
| NP-010675 | 8.3 | 1 CR on Bearer Independent CS Architecture (CSSPLIT) |
| NP-010620 | 8.6 | 4 CRs on Transcoder Free Operation (OOBTC) |
| NP-010621 | 8.8 | 3 CRs on Location Services enhancements (LCS1) |
| NP-010622 | 8.10 | 1 CR on Security enhancements (SEC1) |
| NP-010623 | 8.12 | 7 CRs on TEI for Release 4 (TEI4) |
| NP-010630 | 9.10 | 2 CRs on Intra-domain connection of RAN nodes to multiple CN nodes (IuFLEX) |
| NP-010631 | 9.13 | 7 CRs on TEI for Release 5 (TEI5) |

## 4.1    Release 99 (and earlier) CRs

### 4.1.1  CAMEL phase 3 (NP-010609)
NP-010609 & NP-010673 contain a total of 18 corrective CRs against CAMEL phase 3, which were developed in co-operation with our colleagues in CN2.

CR 23.018-079 (R99, with mirror CRs for Rel-4 in CR 23.018-080 & Rel-5 in CR 23.018-081) corrects the handling of ORLCF interactions with CAMEL. **This CR is classed as an essential correction**.

CR 23.018-089 (R99, with mirror CRs for Rel-4 in CR 23.018-090 & Rel-5 in CR 23.018-091) reflects the possibility to retrieve location information via the UTRAN, as well as via a GSM access network.

CR 29.002-317 (R99, with mirror CR for Rel-4 in CR 29.002-318) reflects the distinction between reporting of **deactivation** of a CSI in the HLR and reporting of **deletion** of a CSI from an HLR. **This CR is classed as an essential correction**.

CR 29.002-338 (R99, with mirror CR for Rel-4 in CR 29.002-339) corrects a formal ASN.1 error: a data type which is imported into 29.078 was not exported from 29.002.

CR 29.002-340 (R99, with mirror CR for Rel-4 in CR 29.002-341) clarifies the way in which withdrawal of all Operator Determined Barring categories is reported to the gsmSCF. **This CR is classed as an essential correction**.

CR 29.002-342 (R99, with mirror CR for Rel-4 in CR 29.002-343) clarifies the way in which CSI data are sent to the VLR in a stand-alone subscriber data modification dialogue. **This CR is classed as an essential correction**.

CR 29.002-346 (R99, with mirror CR for Rel-4 in CR 29.002-347) allow the "Notification to CSE" parameter to be absent from forwarding information and barring information which are sent from the gsmSCF to the HLR. **This CR is classed as an essential correction**.

CR 29.002-363 (R99, with mirror CR for Rel-4 in CR 29.002-364) allow two components of barring information to be omitted if they are not needed. **This CR is classed as an essential correction**.

### 4.1.2  GTP enhancements (R99) (NP-010611)
NP-010610 contains 5 corrective CRs against GTP for Release 99:

CR 29.060-249 (R99, with mirror CR for Rel-4 in CR 29.060-273) defines the length of UMTS quintuplets which can be transported in the MM Context IE. **This CR is classed as an essential correction**.

CR 29.060-252r1 (R99, with mirror CR for Rel-4 in CR 29.060-274) clarifies the use of sequence numbers in GTP-U.

CR 29.060-275r1 (R99) defines the way in which overlapping information in the Protocol Configuration Options IE & other IEs in the Create PDP Context Request & Create PDP Context Response is handled. This CR was approved late in the CN4 meeting in Cancún, and we have not yet prepared the mirror CR for Rel-4. It is on our "To Do" list!

### 4.1.3  Handover (R99) (NP-010611)
NP-010611 contains 12 corrective CRs against Handover for Release 99:

CR 29.002-321 (R99, with mirror CR for Rel-4 in CR 29.002-322) defines the coding of the RNC Id.

CR 29.002-323 (R99, with mirror CR for Rel-4 in CR 29.002-324) defines the coding of the RANAP parameters carried in MAP to identify encryption algorithms & integrity protection algorithms. **This CR is classed as an essential correction**.

CR 29.002-335 (R99, with mirror CR for Rel-4 in CR 29.002-336) corrects the condition for the inclusion of the Allowed GSM Algorithms parameter in the MAP_PREPARE_HANDOVER service definition (the UE has to support GSM, rather than the MS has to support UMTS!). **This CR is classed as an essential correction**.

CR 29.002-353r1 (R99, with mirror CR for Rel-4 in CR 29.002-354r1) defines the minimum MAP application context version to be used for inter-MSC handover between GSM BSS & GSM BSS.

CR 29.010-035r2 (R99, with mirror CR for Rel-4 in CR 29.010-036r2) defines the procedures for relay of positioning requests after inter-MSC handover. **This CR is classed as an essential correction**.

CR 29.010-039 (R99, with mirror CR for Rel-4 in CR 29.010-040) replaces the GSM-specific BSS-APDU with the more generic AN-APDU.

### 4.1.4  GSM-UMTS interworking (R99) (NP-010612)
NP-010612 contains 2 corrective CRs against GSM-UMTS interworking for Release 99:

CR 24.080-013 (R99, with mirror CR for Rel-4 in CR 24.080-014) corrects a misalignment of the message type definition with 24.007 & 24.008.

### 4.1.5 Location Services (R98) (NP-010613)

NP-010613 contains 6 corrective CRs against Location Services:

CR 04.30-A003 (R98, with mirror CRs for R99 in CR 24.030-008 & Rel-4 in CR 24.030-009) specifies the value of SS indicator to be used for location services signalling on the access interface. **This CR is classed as an essential correction**.

CR 09.02-A320 (R98, with mirror CRs for R99 in CR 29.002-312 & Rel-4 in CR 29.002-313) corrects misalignments between the stage 2 definition and the comments in the ASN.1 protocol definition.

### 4.1.6 Location Services enhancements (R99) (NP-010614)

NP-010614 contains 4 corrective CRs against Location Services enhancements for Release 99:

CR 24.030-007 (R99) corrects an error in the implementation of CR 24.030-004.

CR 29.002-319 (R99, with mirror CR for Rel-4 in CR 29.002-320) corrects an error in the length of the parameter which carries geographical information.

CR 29.010-042 (R99; no mirror CR is needed) aligns 29.010 with 25.413 for the removal of the transfer of the "stop reporting" parameter in R99.

### 4.1.7 Multicall (R99) (NP-010615)

NP-010615 contains 2 corrective CRs against Multicall for Release 99:

CR 29.002-333 (R99, with mirror CR for Rel-4 in CR 29.002-334) adds the RAB identifier to the MAP_PREPARE_HANDOVER service definition, to allow proper handling of handover of multicall. **This CR is classed as an essential correction**.

### 4.1.8 TEI (R98 &99) (NP-010616)

NP-010616 contains 13 corrective CRs against Technical Enhancements & Improvements (i.e. we couldn't think where else to put them…) for Release 98 & Release 99:

CR 04.10-A010 (R98, with mirror CRs for R99 in CR 24.010-004 & Rel-4 in CR 24.010-005) removes an ambiguity over the use of the names "SS version indicator" and "SS version" in the access protocol for supplementary services. **This CR is classed as an essential correction**.

CR 23.018-078 (R99) corrects an error in the SDL description of the handling of waiting calls. Mirror CRs to 23.018 for Rel-4 and Rel-5 are not needed, because the SDL description of the handling of waiting calls was moved to 23.083 in Rel-4; you will find the functionally equivalent CR to 23.083 in NP-010623. **This CR is a remedy for incorrect implementation of an earlier CR**.

CR 24.135-002r1 (R99, with mirror CR for Rel-4 in CR 24.135-003r1) clarifies which SI value shall be used for a mobile terminating call when an existing traffic channel is to be re-used.

CR 29.002-315 aligns the SDL and textual descriptions of the MAP protocol machine in the procedure Process_Components. A mirror CR to 29.002 for Rel-4 is not needed, because the description of the MAP protocol machine underwent major revision in Rel-4 with the introduction of MAP signalling security.

CR 29.002-358r2 (R99, with mirror CR for Rel-4 in CR 29.002-359r2) aligns the lengths of parameter values used in MAP with those in the BSSMAP protocol specification, to take account of the fact that only the value part of the BSSMAP parameters is transported in MAP.

CR 29.010-046 (R99, with mirror CR for Rel-4 in CR 29.010-046) removes references to operations on the B interface (MSC<->VLR) which have been deleted from 29.002.

CR 29.060-267r1 (R99, with mirror CR for Rel-4 in CR 29.060-268r1) makes it clear that the GGSN address shall not change during the lifetime of a PDP context, in order to ensure correct identification of partial charging records. **This CR is classed as an essential correction**.

### 4.1.9 Supercharger (R99) (NP-010617)

NP-010617 contains 8 corrective CRs against Supercharger for Release 99:

CR 23.116-003r1 (R99, with mirror CR for Rel-4 in CR 23.116-004r1) clarifies the method used to maintain subscriber data consistency in a supercharger environment.

CR 23.912-001r1 (R99, with mirror CR for Rel-4 in CR 23.912-002r1) clarifies the method used to maintain subscriber data consistency in a supercharger environment. It could be argued that these CRs are unnecessary in view of the corresponding CRs to 23.116, but CN4 prefer belt and braces!

CR 23.912-003r1 (R99, with mirror CR for Rel-4 in CR 23.912-004r1) defines the handling for location updating when the HLR has sent a Reset message to the VLR. Corresponding CRs to 23.116 are needed; the company which submitted these CRs will provide them to the next CN4 meeting.

CR 29.002-330r1 (R99, with mirror CR for Rel-4 in CR 29.002-331r1) clarifies the method used to maintain subscriber data consistency in a supercharger environment.

## 4.2 Release 4 CRs

### 4.2.1 Bearer independent CS architecture (NP-010619)

NP-010619 & NP-010675 contain a total of 11 corrective CRs against Bearer Independent CS Architecture (those with sharp eyes who use the zip file will notice that there is a typo in one of the file names in the zip file: "20232-017_R4_F" should be "29232-017_R4_F"):

CR 23.205-010 corrects an error in the description of the RAB modification procedure. **This CR is classed as an essential correction**.

CR 23.205-012 corrects the description of handover and relocation for both speech and non-speech calls. **This CR is classed as an essential correction**.

CR 23.205-014r2 adds a new timer to allow the possibility of long paging delay in the bearer-independent CS network. **This CR is classed as an essential correction**.

CR 23.205-016r1 corrects an error in the description of the handling of release. This is a result of the goalposts in ITU-T Q.1950 being moved last week; fortunately one of the delegations in CN4 knew that the goalposts were being picked up! **This CR is classed as an essential correction**.

CR 29.232-011r1 adds a reference to ITU-T H.248 annex L for the descriptions of error codes and service change reasons.

CR 29.232-012 removes the redundant "Re-use Idle" package. **This CR is classed as an essential correction**.

CR 29.232-014 (the counterpart of CR 23.205-016r1) corrects an error in the description of the handling of release. **This CR is classed as an essential correction**.

CR 29.232-015 clarifies the use of the 3GUP package for PCM transmission.

CR 29.232-016 changes the names of the 3GPP-specific packages to meet the requirements of RFC3017 that package names must start with an alpha character. **This will require us to notify IANA of the package name changes**. **This CR is classed as an essential correction**.

CR 29.232-017 adds more of the tone generation packages which are specified in ITU-T Q.1950, in order to reduce the risk that proprietary solutions will be adopted for unspecified tones.

CR 29.232-020r1 clarifies the encoding of the sublist type, to reflect the recommendation in the H.248 implementer's guide. **This CR is classed as an essential correction**.

### 4.2.2 Transcoder-free operation (NP-010620)

NP-010620 contains 4 corrective CRs against Transcoder Free Operation:

CR 23.003-034 (Rel-4, with mirror CR for Rel-5 in CR 23.003-035) adds the definition of a global core network element identity, as requested by TSG-RAN WG3. **This CR is classed as an essential correction**.

CR 23.153-028 the use of "No data" SDUs is removed, to reflect the corresponding change in 26.102. **This CR is classed as an essential correction**.

CR 23.153-029 clarifies the handling for codec modification when there is interworking with supplementary services or IN-based services.

### 4.2.3 Location Services enhancements (NP-010621)
NP-010621 contains 3 corrective CRs against Location Services enhancements:

CR 24.030-011 adds the possibility for the UE to use the MO-LR procedure to request a ciphering key, to align with the stage 2 (23.171).

CR 29.002-316 corrects a formal error in the SDL description of retrieval of routeing information for location services.

CR 29.002-344 defines the priority ordering for the case when the GMLC receives both the SGSN address and the VMSC address in the response to a request for routeing information for LCS.

### 4.2.4 Security enhancements (NP-010622)
NP-010622 contains 1 corrective CR against Security enhancements:

CR 29.002-360r1 aligns the definition of the contents of the MAP security header with 33.200, to reflect a recent change agreed in SA3. Unfortunately at the time of going to press the CR number of the linked CR to 33.200 was not known.

### 4.2.5 TEI for Release 4 (NP-010623)
NP-010623 contains 7 corrective CRs against Technical Enhancements & Improvements for Release 4 (this category includes corrections for work items such as GTP which have a work item in Release 99, but where the correction was not acceptable for Release 99):

CR 23.083-008 corrects an error in the SDL description of the handling of waiting calls. This is the functional equivalent of CR 23.018-076 (R99) in NP-010616. **This CR is a remedy for incorrect implementation of an earlier CR**.

CR 29.002-314 clarifies the handling of linked operations in the MAP protocol machine.

CR 29.002-325 clarifies the semantic of the leading digits of the long forwarded-to number data type.

CR 29.002-337r1 replaces an out-of-date reference to GSM 08.06 with the equivalent 3GPP reference.

CR 29.002-349r2 corrects the handling of the "Mobile Not Reachable Reason" information when delivery of a short message fails because the destination subscriber is not reachable.

CR 29.060-255 defines the handling to deal with a race condition on inter-SGSN routeing area update when the subscriber has active PDP contexts.

CR 29.060-264 clarifies the setting of the header marker for the "error indication" message in GTP-U.

## 4.3 Release 5 CRs

### 4.3.1 Intra-domain connection of RAN nodes to multiple CN nodes (NP-010630)
NP-010630 contains 2 CRs against Intra-domain connection of RAN nodes to multiple CN nodes:

CR 23.003-033 defines the rules for TMSI partitioning to support Intra-domain connection of RAN nodes to multiple CN nodes.

CR 29.060-259r1 defines the mechanism for the relay of Identification Request and PDP Context Request Messages in GTP to support Intra-domain connection of RAN nodes to multiple CN nodes. **If this CR is approved it will trigger the creation of 29.060 v5.0.0**.

### 4.3.2 TEI for Release 4 (NP-010631)

NP-010616 contains 7 CRs against Technical Enhancements & Improvements for Release 99:

CR 23.205-011 introduces congestion handling in the media gateway for the bearer-independent CS network.

CR 23.205-013 introduces the possibility of maintenance blocking of the media gateway for the bearer-independent CS network. **If at least one of these CRs is approved it will trigger the creation of 23.205 v5.0.0**.

CR 29.002-355 introduces a method for the serving node (SGSN or MSC/VLR) to indicate to the HLR the LCS capabilities of the UE, as defined in 23.271. **If this CR is approved it will trigger the creation of 29.002 v5.0.0**.

CR 29.060-272 adds a means to transport the radio priority used for LCS on inter-SGSN routeing area update, as defined in 23.271.

CR 29.060-282 clarifies the way in which unused fields of the IMSI are coded in GTP. **If at least one of these CRs is approved it will trigger the creation of 29.060 v5.0.0**.

CR 29.232-013r1 (the counterpart of CR 23.205-011) introduces congestion handling in the media gateway for the bearer-independent CS network.

CR 29.232-019r2 (the counterpart of CR 23.205-013) introduces the possibility of maintenance blocking of the media gateway for the bearer-independent CS network. **If at least one of these CRs is approved it will trigger the creation of 29.232 v5.0.0**.

## 5 Draft Technical specifications and reports

### 5.1 Draft technical specifications presented for information

NP-010627 contains TS 29.228 v1.0.0: IP Multimedia Subsystem Cx interface; signalling flows and message contents. This TS is presented for information; CN4 believe that it will be ready for presentation for approval at CN #15 (March 2002).

NP-010628 contains TS 29.229 1.0.0: Cx Interface based on the Diameter protocol; Protocol details. This TS is presented for information; CN4 believe that it will be ready for presentation for approval at CN #15 (March 2002).

### 5.2 Draft technical report presented for approval

NP-010633 contains TR29.903 v2.0.0: SUA Feasibility Study Report. This TR is presented for approval. After many hours of discussion both in CN4 meetings and by email, we have been able to draw up lists of agreed advantages and drawbacks of SUA compared with M3UA. However there were also areas where opinions were strongly divided on the advantages and drawbacks. The report includes separate lists of the advantages and drawbacks which are perceived by only some of the companies involved in the discussion.

As a result of this division of opinion, CN4 cannot agree on a clear recommendation to CN on whether to proceed with the specification work to define the possible use of SUA as a transport mechanism for the BSSAP+, CAP and MAP protocols in addition to M3UA (which is in the UMTS Release 4 standard). Document NP-010608 puts the question to CN: where do we go from here?

## 6 Work organisation

### 6.1 Work Item descriptions

We have one work item description, which is in NP-010626. This is for the specification work in CN4 on the protocol for the Cx (HSS<->S-CSCF interface.

### 6.2 Review of the work plan

We have reviewed the progress on activities in CN4 against the work plan (version of 29 October 2001). The updated information in table 2 below has been reviewed by CN4 and sent to the MCC for incorporation in the

updated work plan. The table does not include information on work plan items which were shown as complete in the status report to CN #13.

**Table 2: Updates to the work plan from CN4**

| Unique ID | Description | Updated status |
|---|---|---|
| 2455 | SUA Feasibility Study | Complete (see item 5.2) |
| 1280 | SIP supplementary services: relationship to Mg, Mw and Cx interfaces | No activity |
| 1292 | Call control & Roaming for the IMS; addressing, identities; impact on HSS | No activity |
| 2047 | Interworking between the IMS and CS networks | No activity |
| 1286 | Stage 3 description of IMS interfaces: CSCF-HSS (Cx) | 75% complete; TS 29.228 & 29.229 presented for information |
| 14001 | Mc interface (IM-MGW-MGCF) enhancements | No activity |
| 14002 | Mg interface (CSCF-MGCF): interworking with CS | No activity |
| 14003 | Dx interface (I-CSCF-SLF) | No activity |
| 14006 | Sh interface (HSS-Application server) | No activity |
| 14004 | Subscriber data management issues from CAMEL control of IMS | No activity |
| 14999 | Introduction of AMR-WB | Dialogue started with other groups (SA3, SA4, SA5); SA1 have decided that there is no special service requirement. No activity in CN4 #11. |
| 14005 | Support of AMR-WB in GERAN: N4 work | No activity |
| 1305 | Roaming between IMS and CS domain networks | Overall progress depends on individual work tasks |
| 1179 | Location services enhancements; event based and periodic LCS; impacts on MAP | Depends on input from SA2 (completion of task 1538) |
| 1579 | Network domain security; control plane protection; integration of GTP signalling security architecture | We await input from SA3; assuming that this comes from the next SA3 meeting, CN4 should complete their work in February 2002 |
| 1582 | Network domain security; user plane protection; integration of GTP signalling security architecture | We await input from SA3; assuming that this comes from the next SA3 meeting, CN4 should complete their work in February 2002 |
| 2028 | Enhanced HE control of security; FS on network impacts | We await input from SA3; assuming that this comes from the next SA3 meeting, CN4 should complete their work in February 2002 |
| 2249 | Intra Domain Connection of RAN Nodes to Multiple CN Nodes; N4 work | Changes to 23.003 & 29.060 are complete; no impact foreseen for 29.002; principle of changes to 23.012 is agreed, and input is expected at the next CN4 meeting. Completion expected in February 2002. |
| 14503 | Modification of CN protocols for NACC | We await a requirement from GERAN2. |
| 2232 | Advanced Speech Call Items; stage 2 | No activity |

# 7    CN4 meeting calendar

We have a calendar of meetings agreed to the end of 2002; hosts are still needed for the May meeting, because ETSI stepped into the breach to host the January meeting (after Kimmo threatened to have it in Northern Finland…), and quite reasonably decided that it would not be appropriate for them to host both the January and May meetings. As was the case for 2001, we expect that meetings of CN1, CN2, CN3 and CN4 will be collocated.

**Table 3: CN4 meeting calendar to the end of 2002**

| Date | Meeting | Venue | Host |
|---|---|---|---|
| 28 January – 1 February 2002 | CN4 #12 | Sophia Antipolis, FRANCE | ETSI |
| 8 – 12 April 2002 | CN4 #13 | East coast USA | North American Friends of 3GPP |
| 13 – 17 May 2002 | CN4 #14 | Host needed! | |
| 29 July – 2 August 2002 | CN4 #15 | Helsinki, FINLAND | Sonera, Nokia, Elisa, FICORA |
| 23 – 27 September 2002 | CN4 #16 | West coast USA | North American Friends of 3GPP |
| 11 – 15 November 2002 | CN4 #17 | Japan | Japanese Friends of 3GPP |

# 7    Acknowledgments



Friends.mp3

First, I have to thank Kimmo Kymäläinen for the way in which he has provided excellent support with no fuss. The stereotype of the Finn is very sparing with words (to compare stereotypes, a Finn treats words in the same way as a Scotsman treats money), but I have found that, in common with several other Finns I have come to know, he has a wry sense of humour; be careful about taking everything he says at face value!

The two vice-chairmen, Peter Schmitt and Toshiyuki Tamura, have also provided excellent back-up to the chairman. Peter Schmitt found out what the role of vice-chairman means when he had to chair the whole of the CN4 meeting in Brighton, because I was sunning myself in Greece and Toshiyuki Tamura was prevented from travelling in the aftermath of the events of 11 September. Tamura-san looked after a difficult drafting session at the CN4 meeting in Cancún, where very nearly all the loose ends were tied up for the SUA feasibility study.

The CN4 participants have, as usual, worked hard both before and during the meetings; the numbers of input documents and agreed outputs are both up substantially after the summer lull. The discussions sometimes got heated, and I hope the delegates weren't **too** upset when I had to shout at them to bring the meeting to order!

Finally, I would like to thank the hosts of our meetings. Both of the last two CN4 meetings have been in seaside resorts (of very different characters!), and both involved some complex large-scale organisation. Cancún especially must have been "interesting" to organise, with about 500 delegates at 20 meetings. I hope that next year we will continue to enjoy such effective arrangements.