3GPP TSG CN Plenary Meeting #15 **NP-020020**
Jeju, Korea, 6th – 8th March 2002

Source: **CN4 Chairman**

Title: **3GPP TSG CN WG4 Status Report**

Agenda item: **6.4.1**

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1 Introduction


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CN4 have had two meetings since the last CN plenary meeting: CN4 #12 was held in Sophia Antipolis, France, on 28 January – 1 February, kindly hosted by ETSI, and CN4 #12bis was held in Helsinki, Finland, on 13 – 14 February, kindly hosted by Nokia. CN4 #12bis was chaired by one of the vice-chairmen, Peter Schmitt (Siemens), because the CN4 chairman was on holiday (again!) sunning himself in Dubai. Kimmo Kymäläinen (MCC) provided his usual competent support. The contributors were very active; give or take a few withdrawals, there were **272** documents tabled for CN4 #12, more than we were able to deal with during the meeting. As a result, CN4 decided to have a 2-day CN4 #12bis in an effort to clear the backlog of 38 postponed documents. Besides the 38 postponed documents, CN4 #12bis considered a further 28 documents: a total of **66**. In CN4 #12 we agreed **49** change requests and **8** output liaison statements; this was supplemented in CN4 #12bis by a further **9** CRs, **2** liaison statements and **2** work item descriptions. There were **33** participants representing **19** companies in CN4 #12 and **18** participants representing **12** companies in CN4 #12bis.

The draft meeting reports of CN4 #12 and CN4 #12bis were distributed to the CN4 email list (3GPP_TSG_CN_WG4@list.etsi.fr) for approval; at the time of writing this process was not concluded. The CN4 #10 & CN4 #11 meeting reports are provided in Tdoc NP-020021 for information. The CN4 outgoing liaison statements are provided in Tdoc NP-020022 for information.

2 Management summary

The level of corrections against UMTS Release 99 has fortunately fallen since CN #14; this reflects a stricter approach by many companies to accepting non-critical corrections. Perhaps by way of compensation, we are presenting one CR to GSM Release 96(!) with mirror CRs to all later releases, and further 2 CRs to GSM Release 98, again with mirror CRs to all later releases.

In Release 4, the majority of change requests were directed to the Bearer independent CS core network.

In Release 5, we have, as indicated at CN #14 completed our work on Intra-domain connection of RAN nodes to multiple CN with a CR to 23.012. 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 serious 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. Unfortunately the protocol specifications for the Cx interface (29.228 and 29.229) are not yet ready to bring under change control, primarily because the base specification (Diameter) is not yet considered stable in IETF.

The other major Release 5 activity has been the collaboration with CN2 on CAMEL phase 4. Several specifications which are in the remit of CN4 are affected by CAMEL phase 4, and we spent two sessions of half a day each during CN4 #12 in joint discussions with CN2 to deal with CAMEL issues. All the changes to CN4 specifications for CAMEL phase 4 have been reviewed and endorsed by CN4.

CN4 #12 discussed at length the possible methods for ensuring interworking between GSNs in an environment which uses a mixture of IPv4 and IPv6, but we were not able to agree on a change to 29.060 to define the interworking. The debate will continue at the next CN4 meeting!

As was noted at CN #14, SA3 have asked CN4 to define the protocol for the Ze interface. This protocol is used for the secure transport of secret keys and security policy information for MAP signalling security. Unfortunately SA3 were not able to send an expert to CN4 #12; CN4 experts were invited to a joint session at the SA3 meeting on 27 February.

As section 6.2 indicates, there are still several 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 nearly new, but the message behind it is not: LILO (Lack of Input, Lack of Output)!

3 Questions for advice and decision

None

4 Change Requests

CN4 produced 60 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-020023	7.2	6 CRs on CAMEL phase 3 (R99)
NP-020024	7.13	3 CRs on GTP enhancement
NP-020025	7.18	3 CRs on Multicall (R99)
NP-020026	7.22	6 CRs on TEI (R96)
NP-020027	7.22	8 CRs on TEI (R98)
NP-020028	7.22	5 CRs on TEI (R99)
NP-020029	8.3	8 CRs on Bearer Independent CS Architecture (CSSPLIT)
NP-020060	8.12	2 CRs on TEI for Release 4 (TEI4)
NP-020063	9.5	7 CRs on CAMEL phase 4 (CAMEL4)
NP-020064	9.7	3 CRs on Location Services enhancements (LCS1)
NP-020065	9.10	1 CR on Intra Domain Connection of RAN Nodes to multiple CN (IuFLEX)
NP-020066	9.14	8 CRs on TEI for Release 5 (TEI5)

4.1 Release 99 (and earlier) CRs

4.1.1 CAMEL phase 3 (NP-020023)

NP-020023 contains 6 corrective CRs against CAMEL phase 3, which were developed in co-operation with our colleagues in CN2.

CR 23.018-096 (R99, with mirror CRs for Rel-4 in CR 23.018-097 & Rel-5 in CR 23.018-098) reflects the possibility to retrieve location information via the UTRAN, as well as via a GSM access network. This set of CRs is the complement of CRs 23.018-089, 090 & 091, which were approved in CN #14.

CR 29.002-371r1 (R99, with mirror CRs for Rel-4 in CR 29.002-372r2 & Rel-5 in CR 29.002-373) adds the ODB categories which are stored only in the HLR to the MAP protocol, so that they can be transferred between the gsmSCF and the HLR. **This CR is classed as an essential correction**.

4.1.2 GTP enhancements (R99) (NP-020024)

NP-020024 contains 3 corrective CRs against GTP for Release 99:

CR 29.060-308 (R99, with mirror CRs for Rel-4 in CR 29.060-298r1 & Rel-5 in CR 29.060-299r1) correct an ambiguity in the use of the PDP address field and end user address information elements in the create PDP context response message. **This CR is classed as an essential correction**.

4.1.3 Multicall (R99) (NP-020025)

NP-020025 contains 3 corrective CRs against Multicall for Release 99:

CR 29.002-382 (R99, with mirror CRs for Rel-4 in CR 29.002-383 & Rel-5 in CR 29.002-384) adds the Radio Resource list to the information which can be transferred in the Forward Access Signalling operation. **This CR is classed as an essential correction**.

4.1.4 TEI (R96) (NP-020026)

NP-020026 contains 6 corrective CRs against TEI for Release 96:

CR 09.02-A325 (R96, with mirror CRs for R97 in CR 09.02-A326, R98 in CR 09.02-A327 & R99 in CR 29.002-405) corrects a misalignment between the ASN.1 definition of operator determined barring categories and the parameter definition in the service definition earlier in the same specification. Conceptually, CR 29.002-406r1 (Rel-4) and CR 29.002-407r1 (Rel-5) are mirror CRs, but formally CR 29.002-406r1 is category F, because it is not an exact mirror of CR 09.02-A325; it covers additional ODB categories.

4.1.5 TEI (R98) (NP-020027)

NP-020027 contains 8 corrective CRs against TEI for Release 98:

CR 09.02-A324 (R98, with mirror CRs for R99 in CR 29.002-402, Rel-4 in CR 29.002-403 & Rel-5 in CR 29.002-404) removes an ambiguity in the definition of the way in which the CODEC-info parameter (defined in GSM 08.08) is encoded for transport in MAP. **This CR is classed as an essential correction**.

CR 09.02-A321r1 (R98, with mirror CRs for R99 in CR 29.002-388r1, Rel-4 in CR 29.002-389r1 & Rel-5 in CR 29.002-390r1) corrects misalignments between the service definition for the MAP_RESTORE_DATA service and the ASN.1 protocol definition.

4.1.6 TEI (R99) (NP-020028)

NP-020028 contains 5 corrective CRs against TEI for Release 99:

CR 23.018-101r1 (R99, with mirror CRs for Rel-4 in CR 23.018-092r2 & Rel-5 in CR 23.018-093r1) clarifies the conditions for the MSISDN to be included in the Provide Roaming Number message, to support CAMEL-based services.

CR 23.016-022r2 (R99, with mirror CR for Rel-4 in CR 23.016-023r2) clarifies the definition of "overlapping data" and the way in which the VLR handles it.

4.2 Release 4 CRs

4.2.1 Bearer independent CS architecture (NP-020029)

NP-020029 contains 8 corrective CRs against Bearer Independent CS Architecture:

CR 23.205-020 (Rel-4, with mirror CR for Rel-5 in CR 23.205-021) aligns the behaviour of the (G)MSC at restoration with the behaviour defined in ITU-T Q.1950. **This CR is classed as an essential correction**.

CR 23.205-022r2 (Rel-4, with mirror CR for Rel-5 in CR 23.205-023r2) corrects the definition of the handling at bearer modification. **This CR is classed as an essential correction**. **It is linked to CR 29.232-026r1**

CR 29.232-024r2 (Rel-4, with mirror CR for Rel-5 in CR CR 29.232-025r2) clarifies the naming convention for TDM resources.

CR 29.232-026r1 (Rel-4, with mirror CR for Rel-5 in CR CR 29.232-027r1) corrects the definition of the handling at bearer modification. **This CR is classed as an essential correction**. **It is linked to CR 23.205-022r2**.

4.2.2 TEI for Release 4 (NP-020060)

NP-010620 contains 2 corrective CRs against TEI for Release 4:

CR 29.002-385 (Rel-4, with mirror CR for Rel-5 in CR 29.002-386) corrects an internal misalignment in the definition of the application context version of the gprsLocationInfoRetrievalContext. **This CR is classed as an essential correction**.

4.3 Release 5 CRs

4.3.1 CAMEL phase 4 (NP-020063)

NP-020063 contains 7 CRs on CAMEL phase 4 to specifications in the remit of CN4. These CRs were developed in co-operation with our colleagues in CN2.

CRs 23.008-039r1, 23.016-021, 23.018-082r2, 23.079-016, 23.083-009r1 & 29.002-368r4 are the main "Collective CAMEL phase 4 CRs". CR 23.018-100r1 is a supplementary CR for a late addition to the CAMEL phase 4 functionality; the stage 1 requirement was agreed by SA1 in their meeting in February, which did not leave time to incorporate the material into CR 23.018-082r2. **These CRs are linked to the CRs against 23.078 and 29.078 which will be presented by CN2**. **If these CRs are approved, it will trigger the creation of v5.0.0 of 23.008, 23.016, 23.079 & 23.083**.

4.3.2 Location services enhancements (NP-020064)

NP-020064 contains 3 CRs on location services enhancements:

4.3.3 Intra-domain connection of RAN nodes to multiple CN nodes (NP-020065)

NP-020065 contains 1 CR on Intra-domain connection of RAN nodes to multiple CN nodes:

CR 23.012-008r1 defines the procedure in the "pool" VLR to relay a Send Identification request to the VLR which holds the subscriber record. This CR completes the work in CN4 on IuFLEX.

4.3.4 TEI for Release 5 (NP-020066)

NP-020066 contains 8 CRs on Technical Enhancements & Improvements for Release 5:

CR 23.008-038r5 defines the additional information to be stored in location registers to support the IP Multimedia System. **If at least one of CR 23.008-038r5 and CR 23.008-039r1 is approved it will trigger the creation of 23.008 v5.0.0**.

CR 23.153-030r2 defines the procedure for codec fallback when a TrFO call is established to an external network. **If this CR is approved it will trigger the creation of 23.153 v5.0.0**.

CR 29.060-291r1 clarifies the use of the Teardown Indicator information element.

CR 29.060-294r1 defines a procedure for cleaning up "dangling" PDP contexts.

CR 29.060-297r1 cleans up the definition of "conditional" for the presence requirement of an information element; the large majority of IEs which use this attribute do not conform to the definition of "conditional" in 29.060!.

CR 29.060-300r2 defines a procedure for the relay of RAN information encapsulated in GTP signalling. This is intended initially for the support of Network Assisted Cell Change for GERAN access.

CR 29.060-301 defines a procedure to determine the priority order of PDP contexts to be maintained at inter-SGSN Routeing Area Update.

CR 29.060-309r1 defines enhancements required to support IMS.

5 Draft Technical specifications and reports

CN4 are not presenting any technical specifications or reports to CN #15.

6 Work organisation

6.1 Work Item descriptions

We have two work item descriptions, which are in NP-020061 & NP-020062.

NP-020061 is an updated version of the WID for the protocol on the Cx interface. This has been revised to reflect the change of expected delivery of the specifications, and the withdrawal of one of the rapporteurs.

NP-020062 is a new work item description for the protocol on the Sh 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
1280	SIP supplementary services: relationship to Mg, Mw and Cx interfaces	Superseded by 14000
1292	Call control & Roaming for the IMS; addressing, identities; impact on HSS	No activity; no requirements received (SA2)
1286	Stage 3 description of IMS interfaces: CSCF-HSS (Cx)	79% complete; end date moved to 7 Jun 2002.
14001	Mc interface (IM-MGW-MGCF) enhancements	No inputs received; end date moved to 7 Jun 2002.
14003	Dx interface (I-CSCF-SLF)	Incorporated in 29.229; now complete
14006	Sh interface (HSS-Application server)	WID presented for approval; 10% complete. End date moved to 7 Jun 2002.
14004	Subscriber data management issues from CAMEL control of IMS	No activity; no input (CN2). End date moved to 7 Jun 2002.
14999	Introduction of AMR-WB	50% complete. End date moved to 7 Jun 2002.
14005	Support of AMR-WB in GERAN: N4 work	No activity (may be some stage 3 work). End date moved to 7 Jun 2002.
1179	Location services enhancements; event based and periodic LCS; impacts on MAP	Depends on input from SA2 (completion of task 1538). End date moved to 7 Jun 2002.
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 May 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 May 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 May 2002
2249	Intra Domain Connection of RAN Nodes to Multiple CN Nodes; N4 work	Complete
14503	Modification of CN protocols for NACC	Complete

7 CN4 meeting calendar

We have a calendar of meetings agreed to the end of 2002; hosts have come forward for all the meetings. As was the case for 2001, we expect that meetings of CN1, CN2, CN3 and CN4 will be collocated, with one exception: the April meeting of CN2 will be in Finland, while CN1, CN3 & CN4 will meet in Florida.

Table 3: CN4 meeting calendar to the end of 2002

Date	Meeting	Venue	Host
8 – 12 April 2002	CN4 #13	Fort Lauderdale, Florida, USA	North American Friends of 3GPP
13 – 17 May 2002	CN4 #14	Amsterdam, NETHERLANDS	Ericsson

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	Penang, MALAYSIA	Japanese Friends of 3GPP

7 Acknowledgments

First, I have to thank Kimmo Kymäläinen for providing the excellent support which we have come to expect from the MCC. As chairman of SMG3 WP'C', CN2 and now CN4 I have worked with many people from ETSI PT/SMG and the 3GPP MCC, and Kimmo has lived up to the tradition of competence established by his predecessors. Kimmo doesn't say as much as his predecessor, Franco Settimo, but he's worth listening

The two vice-chairmen, Peter Schmitt and Toshiyuki Tamura, have again been called on to look after a meeting while I've been on holiday; it's a good thing that CN4 has two competent vice-chairmen to act as backup for a part-time chairman!

The CN4 participants have been even more prolific in producing documents: based on the number which we had in January, we will very likely break the barrier of 1500 documents during the year. It doesn't seem so very long ago that we had to resort to extra-decimal numbering to cope with more than a thousand documents in a year, when we had a three-digit numbering scheme. We have worked some very long days – maybe it’s a good thing that we didn't have a social event at our last meeting, because it meant that we could work on Wednesday evening as well!

Finally, I would like to thank the hosts of our meetings. ETSI gave us good facilities on their home ground, and Nokia stepped in at very short notice to host the CN4 #12bis meeting, which enabled us to reduce the backlog of untreated documents after CN4 #12.