3GPP TSG CN Plenary Meeting #20 **NP-030205**
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Source: **CN4 Chairman**

Title: **Status report from CN4 to TSG-CN Plenary Meeting #20**

Agenda item: **6.4.1**

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1 Introduction


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CN4 have had one meeting since the last CN plenary meeting: CN4 #19 was held in San Diego, USA, on 19 - 23 May, kindly hosted by the North American Friends of 3GPP. This time the CN4 chairman became an honorary North American for a little while to welcome us on behalf of the hosts. We were not able to avoid parallel sessions in this meeting, so the CN4 chairman-elect, Peter Schmitt (Siemens), put in some practice for the next several CN4 meetings and chaired one set of parallel sessions. The other vice chairman, Toshiyuki Tamura (NEC), also joined the fun, as did the CN chairman, each of whom chaired a session while the CN4 chairman was presenting some **big** MAP CRs (this is known in the trade as "upwards delegation"!). Kimmo Kymäläinen (MCC) was there as usual, making sure we did things properly; **he** didn't get flustered, despite arriving from Los Angeles just before the meeting started (oh, the joys of connecting flights). The contributors were exceptionally active; give or take a few withdrawals, there were **247** documents tabled at the start of the meeting, and by the time we reached the close of the ,meeting the count had risen to **392**, breaking the record which was set at CN4 #18. If this trend continues, it looks as though Peter Schmitt will have to arrange parallel sessions again next time! We agreed **108** change requests (the first time, I think, that we passed the 100 mark), **9** output liaison statements and **1** updated work item description; a further liaison statement needed to be revised at the end of the meeting, and is in the process of approval by email correspondence. There were **29** participants representing **25** companies, plus Kimmo for the MCC.

The draft meeting report of CN4 #18 was distributed to the CN4 email list; it is still under review. It is provided in Tdoc NP-030206 for information. The CN4 outgoing liaison statements are provided in Tdoc NP-030207 for information.

2 Management summary

2.1 Leadership changes

As has been expected for a long time, the incumbent CN4 chairman stepped down. One of the vice-chairmen, Peter Schmitt (Siemens), was elected unopposed as the new chairman; you will be hearing from him at the next CN plenary meeting, but this report is presented as the outgoing chairman's swan song (I **hope** the metaphor is not too exact…).

The post of CN4 vice-chairman is obviously an attractive one; there were four candidates for the two vice-chairmanships: Nigel Berry (Lucent Technologies), Toshiyuki Tamura (NEC), Dan Warren (Nortel Networks) and Peter Wild (Vodafone D2). After two rounds of voting, Toshiyuki Tamura and Peter Wild were elected. With a German chairman and a German vice-chairman, maybe CN4 delegates should look forward to a change in the working language for CN4 meetings…

Release 6

We agreed a new work item description for enhancements to the **protocols for the Cx/Dx and Sh interfaces**. The aim of this work item is twofold: to support the enhancements to IMS which are part of release 6 and to integrate the protocol specifications for the Cx/Dx and Sh interfaces into an IETF specification for a Diameter Multimedia application.

Location services for Release 6 have triggered a small number of changes to the MAP specification; however the main protocol development work for the Lpp and Lr interfaces is being done in the OMA Location

Working Group. SA2 proposed that the protocol for a third interface which is specific to Location Services should also be developed by OMA-LWG; CN4 endorsed this proposal, and asked OMA-LWG to provide progress reports directly to CN plenary.

We received one contribution directed to the **Mn interface protocol** specification (TS 29.332) and agreed to incorporate this into the draft specification as the basis for further work.

We received a liaison statement from SA2 on the use of CAMEL to support **Presence services**. This indicated the need for further detailed discussions between CN2, CN4 and SA2 on how Presence services should be supported using the functionality and protocols for which CN2 and CN4 are responsible.

We agreed the first draft (defining the specification structure) of the stage 3 specification for the **Generic User Profile** feature; there should be specific technical contributions at the next CN4 meeting, when the stage 2 specification is more mature.

We agreed the first draft of the specification for the core network protocols to support **Wireless LAN interworking**; there were also several contributions to put some flesh on the skeleton. Again, the protocol work depends on the availability of a stable stage 2; the expected date for the approval of the stage 2 is June 2003, which leads to a target date of December 2003 for the approval of the protocol specification.

2.2 Release 5

After the high level of activity at CN4 #18, the number of corrections to the **protocol specifications for the Cx/Dx and Sh interfaces** was down (though still substantial); this time CN4 **knew** that it was the last chance to submit "nice to have" corrections against Release 5 specifications! We were able to resolve the issue of ensuring that data stored in the HSS for use by several application servers is properly synchronised between the HSS and application servers, thanks to a lot of co-operative work between several companies before the meeting.

We agreed a small number of corrections to **CAMEL phase 4**.

The number of corrections to **GPRS for Release 5** was up slightly on the previous CN4 meeting, but was not a cause for concern that the specifications are unstable.

We agreed two corrections to TS 29.002 (with Rel-6 mirrors) for **Release 5 Location Services**.

Mobile Number Portability continues to be a contentious subject in CN4. We received an LS from SA1 to indicate the particular call cases which they wanted to see resolved for Release 5; after some discussion in CN4 we proposed some refinements to the stage 1 CRs which had been drafted by SA1, and agreed to forward them to SA with a request to approved the revised CRs (this is an exceptional procedure, but we took it to avoid the extra three months of delay which would follow from the more usual route of sending our proposal to SA1 and waiting for them to send the stage 1 CRs to SA for approval. Unfortunately the stage 2 and 3 CRs proved a lot more difficult. There are two competing proposals on the table, and in spite of long discussion we could not reach agreement on which proposal to forward to CN for approval. I regret that Peter Schmitt can look forward to some difficult discussions in his first term as CN4 chairman!

SCUDIF was another difficult topic. CN #19 referred back the CRs which had been presented by CN3 and CN4 for approval because of concerns raised by NTT DoCoMo over the extra signalling load imposed by the two-step interrogation procedure which was defined in the CRs presented to CN #19; there were also concerns that the stage 2 and stage 3 CRs had not taken account of interactions with CAMEL. The counter-proposal from NTT DoCoMo was found to have significant shortcomings in it, but NTT DoCoMo were not prepared to accept the two-step procedure, so Peter Schmitt has another interesting set of discussions to anticipate for CN4 #20. I feel guilty about handing over such a snake pit to him!

Another major topic of discussion, this time with a happier outcome, was **"Early UE" handling**. As requested by SA2, we agreed the CRs to CN4 specifications (with one exception) for the two possible solutions. Which set of CRs is accepted, and which is rejected, will depend on the result of the voting process in TSG RAN.

As I warned at CN #19, we have several CRs to the procedure chapters of the MAP specification. Evidently CN4 were feeling inclined to indulge their outgoing chairman, because we agreed CRs to wield Occam's razor on the text of chapters 22, 23, 24, 24A, 24B and 25, as well as supplying SDL diagrams. All these CRs

corrected several minor technical errors, so each one is submitted as a correction to Release 5, with a mirror for Release 6. If they are approved by CN, 29.002 will be several pages shorter! Chapters 19, 20 and 21 will receive my attention over the summer…

2.3 Release 99/Release 4

We agreed a set of CRs to the stage 2 & stage 3 specifications for **Bearer Independent Architecture**, to clarify the handling of DTMF signalling.

Now that we have Release 6 versions of the 29.060 as well as 29.002, changes to Release 99 or Release 4 for **GPRS** require several mirrors: two corrections to Release 99 and one to Release 4 have given rise to a total of 10 CRs.

Transcoder-free Operation was another source of some heated debate; Peter Schmitt thought it was too good to keep it in the parallel session which he chaired, so we had another bite at the apple with all of CN4 together. This time, on a narrow majority we decided to forward the CRs on **Iu User Plane initialisation** to CN for approval.

A newcomer company to CN4 was Hughes Software Systems, who presented several CRs on **MAP signalling security**. Unfortunately they didn't realise the importance of being there to follow through with revisions to their original contributions, so the revised CRs had to be postponed to a future meeting.

We responded to an LS from T2 on **second attempts to deliver short messages** by adding text to 29.002 to clarify that if the first attempt to deliver the SM fails because the UE is not SM-equipped, the SMS-GMSC will retry using the other domain.

2.4 GSM

We have taken the lid of GSP specifications yet again; this time it was GSM 03.08, the stage 2 for **data stored in location registers**. We have one corrective CR to Release 97, with mirrors to all releases up to Release 5, to distinguish between roaming restriction in the **SGSN** because a critical feature is not supported and roaming restriction in the **MSC/VLR** because a critical feature is not supported.

3 Questions for advice and decision

None

4 Change Requests

CN4 produced 109 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 as critical corrections, unless there is an indication to the contrary.

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

Tdoc NP-03	Agenda item	Subject
0208	7.2	Security
0209	7.3	GPRS Release 99
0210	7.4	Location services
0211	7.7	Transcoder free operation, 03
0212	7.8	Bearer independent architecture
0213	7.11	Technical Enhancements & Improvements for R97: Subscriber data management
0214	7.11	Technical Enhancements & Improvements for R99: SMS
0215	8.1	IP-based multimedia services: Cx/Dx interface protocol
0216	8.1	IP-based multimedia services: Sh interface protocol
0217	8.3	CAMEL phase 4
0218	8.4	Location services for Rel-5
0219	8.8	Technical Enhancements & Improvements for Rel-5: GTP
0220	8.8	Technical Enhancements & Improvements for Rel-5: Bearer independent architecture
0221	8.8	Technical Enhancements & Improvements for Rel-5: Mobile number portability
0222	8.8	Technical Enhancements & Improvements for Rel-5: Transcoder free operation
0228	8.8	Technical Enhancements & Improvements for Rel-5: MAP specification clean-up
0223	8.9	Early UE handling: pack 1 (independent of IMEISV or bitmap transfer from CN to AN)
0224	8.9	Early UE handling: pack 2 (Bitmap transfer from CN to AN and no UESBI transfer in GERAN)
0225	8.9	Early UE handling: pack 3 (IMEI transfer from CN to AN and no UESBI transfer in GERAN)
0226	8.9	Early UE handling: pack 4 (Bitmap transfer from CN to AN and UESBI transfer in GERAN)
0227	8.9	Early UE handling: pack 5 (IMEI transfer from CN to AN and UESBI transfer in GERAN)
0230	9.18	Technical Enhancements & Improvements for Rel-5: GTP
0231	9.19	Location services for Rel-6

4.1 Release 4 (and earlier) CRs

Corrective CRs to Release 4 and earlier are **essential corrections**, unless there is an indication to the contrary.

4.1.1 Security (NP-030208)

NP-030208 contains 3 corrective CRs to the MAP specification: one to Release 4, with mirror CRs for Releases 5 & 6.

CR 29.002-534r2 (Rel-4, with Rel-5 mirror in CR 29.002-535r2 & Rel-6 mirror in CR 29.002-536r2) adds the possibility to report failure of authentication when the MS requests GPRS detach.

4.1.2 GPRS (NP-030209)

NP-030209 contains 3 corrective CRs to the numbering and addressing specification: one to R99, with mirror CRs for Releases 4 & 5. It also contains 4 corrective CRs to the GTP specification: one to Release 99, with mirror CRs for Releases 4, 5 & 6.

CR 23.003-063 (R99, with Rel-4 mirror in CR 23.003-064 & Rel-5 mirror in CR 23.003-065) corrects the encoding for the target ID as a logical name.

CR 29.060-405r1 (R99, with Rel-4 mirror in CR 29.060-406r1, Rel-5 mirror in CR 29.060-407r1 & Rel-6 mirror in CR 29.060-408r1) makes it clear that a PDP context Response is required even when there are no active PDP contexts at inter-SGSN transfer.

4.1.3 Location services (NP-030210)

NP-030210 contains 3 corrective CRs to the specification of the mapping between MAP and access signalling: one to Release 99, with mirror CRs for Releases 4 & 5.

CR 29.010-086 (R99, with Rel-4 mirror in CR29.010-087 & Rel-5 mirror in CR29.010-088) corrects an error in the mapping of LCS cause codes between BSSMAP and RANAP.

4.1.4 Transcoder Free Operation (NP-030211)

NP-030211 contains 8 corrective CRs to the stage 2 specification of Transcoder Free Operation: 4 to Release 4, each with a mirror CR for Release 5. It also contains 2 CRs to the protocol specification for the Mc interface: one to Release 4, with a mirror CR for Release 5.

CR 23.153-054r2 (Rel-4, with Rel-5 mirror in CR 23.153-055r1) clarifies the use of the default codec and the handling of the codec list.

CR 23.153-056 (Rel-4, with Rel-5 mirror in CR 23.153-057) clarifies the handling of DTMF tones in TrFO.

CR 23.153-058r2 (Rel-4, with Rel-5 mirror in CR 23.153-059r1) clarifies the use of the transmission mode requirement for codec negotiation.

CR 23.153-060 (Rel-4, with Rel-5 mirror in CR 23.153-061) defines the cases where the Iu User Plane is not initialised at codec modification.

CR 29.232-055r1 (Rel-4, with Rel-5 mirror in CR 29.232-056r1) clarifies that the format of signalling data units is decoupled from the application. **CRs 23.153-060/061 and 29.232-055r1/056r1 are linked, and must be approved or rejected as a package.**

4.1.5 Bearer independent architecture (NP-030212)

NP-030212 contains 4 corrective CRs to the stage 2 specification for the bearer independent architecture: 2 to Release 4, each with a mirror CR for Release 5. It also contains 2 CRs to the protocol specification for the Mc interface: one to Release 4, with a mirror CR for Release 5.

CR 23.205-041 (Rel-4, with Rel-5 mirror in CR 23.205-042) clarifies the handling of DTMF tones in the bearer independent architecture.

CR 23.205-043r1 (Rel-4, with Rel-5 mirror in CR 23.205-044r1) and the linked CR 29.232-058 (Rel-4, with Rel-5 mirror in CR 29.232-059) clarify the timing for handling DTMF tones in the bearer independent architecture.

All the CRs in this package are linked, and must be approved or rejected as a package.

4.1.6 Technical Enhancements & Improvements for GSM Release 97 (NP-030213)

NP-030213 contains 5 corrective CRs to the stage 2 specification of data stored in location registers: one to GSM Release 97, with mirror CRs for all releases from GSM Release 98 to UMTS Release 5.

CR 03.03-A040 (R97, with R98 mirror in CR 03.03-A041, R99 mirror in CR 23.003-119, Rel-4 mirror in CR 23.003-120 & Rel-5 mirror in CR 23.003-121) make clear the distinction between roaming restriction in the SGSN because the SGSN does not support a critical service or feature and roaming restriction in the MSC/VLR because the MSC/VLR does not support a critical service or feature.

4.1.6 Technical Enhancements & Improvements for Release 99 (NP-030214)

NP-030214 contains 4 corrective CRs to the MAP specification: one to Release 99, with mirror CRs for Releases 4, 5 & 6.

CR 29.002-630 (R99, with Rel-4 mirror in CR 29.002-631, Rel-5 mirror in CR 29.002-632 & Rel-6 mirror in CR 29.002-633) adds "Equipment not SM equipped" to the list of error causes which prompt a second attempt in the other domain (PS or CS) to deliver an SM if the first attempt failed.

4.2 Release 5 CRs

4.2.1 Provisioning of IP-based multimedia services - Cx/Dx interface protocol (NP-030215)

NP-030215 contains 8 corrective CRs to the specification of signalling flows and message contents for the Cx & Dx interfaces and one corrective CR to the protocol specification for the Cx & Dx interfaces.

CR 29.228-043 replaces the notation "Experimental-Result-Code" with "Result-Code" for those result codes which are defined in the Diameter base protocol.

CR 29.228-044r1 and the linked CR 29.229-019 reflect reality by allowing the User-Name AVP to be conditional rather than mandatory in the Server-Assignment-Answer message. **These CRs are linked, and must be approved or rejected as a package.**

CR 29.228-045r2 (not CR 29.228-045r1 as shown on the cover sheet of NP-030215) replaces the mixture of encoding schemes for various components of the Authentication Data AVP with systematic binary encoding.

CR 29.228-046r1 defines the ability to deregister all implicitly registered public identities by specifying the any of the public user identities in the linked set.

CR 29.228-047 specifies that only a single public used identity shall be present in the server assignment request when the server assignment type is NO ASSIGNMENT.

CR 29.228-048r1 (the logical complement of CR 29.228-043) replaces the notation " Result-Code" with " Experimental-Result-Code" for those result codes which **are not** defined in the Diameter base protocol.

CR 29.228-049r1 systematically aligns the information element **names** for those information element which are of **type** Public Identity to make them "Public User Identity"

CR 29.228-050r1 removes the duplication of the Destination-Host AVP in the Multimedia-Auth-Request command.

4.2.2 Provisioning of IP-based multimedia services - Sh interface protocol (NP-030216)

NP-030216 contains 7 corrective CRs to the specification of signalling flows and message contents for the Sh interface (TS 29.328) and 5 corrective CRs to the protocol specification for the Sh interface (TS 29.329).

CR 29.328-022r1 and the linked CR 29.329-014r1 define the method for ensuring that the copies of repository data held in the HSS and application servers are properly synchronised. **These CRs are linked, and must be approved or rejected as a package.**

CR 29.328-023r1 provides a full definition of the handling for the Sh-Pull Request and Response.

CR 29.328-024r1 provides a full definition of the handling for the Sh-Notif-Subs Request and Response and the Sh-Notif Request and Response.

CR 29.328-025r2 cleans up the references in 29.328 (ensuring that all specifications listed in the references list are referenced in the body of 29.328, and vice versa) and takes the final opportunity to carry out an editorial alignment within the specification.

CR 29.328-027 aligns the definition of the tTrigger in the XML schema with the definition of the same type in the XML schema for 29.228.

CR 29.228-029 and the linked CR 29.329-18 replace the (wrong) use of the Public-Identity AVP with User-Identity in the definition of RepositoryData. **These CRs are linked, and must be approved or rejected as a package.**

CR 29.328-030 removes the possibility to include charging information as an information element in the Sh-Update operation; SA2 and SA5 require that the application server can read, but not modify, the charging information.

CR 29.329-015r1 corrects an error in the abbreviation for the User-Data-Answer command, and tidies up some incorrect references.

CR 29.329-016 corrects a (fundamental!) error in the definition of the semantic for the DoNotNeedInitiateActiveLocationRetrieval code point of the Current-Location AVP.

CR 29.329-019r1 aligns the presence requirement for the Data-Reference AVP in the User-Data-Request and Subscribe-Notification-Request messages with the presence requirement in 29.328, by making a single instance mandatory.

4.2.3 CAMEL phase 4 (NP-030217)

NP-030217 contains two corrective CRs to the stage 2 specification for basic call handling for Release 5 and two corrective CRs to the MAP specification: one to Release 5, with a mirror CR for Release 6.

CR 23.018-115r2 specifies that the CAMEL No-reply timer (which is started when a call is extended to the destination VMSC) is stopped if the call is subject to Optimal Routeing of Late Call Forwarding.

CR 23.018-123 adds the handling for a "Release" result from the procedure CAMEL_MT_GMSC_Notify_CF to the procedure Obtain_Routeing_Address.

CR 29.002-618r1 (Rel-5, with Rel-6 mirror in CR 29.002-619r1) renames parameters in the ProvideRoamingNumber operation to clarify that they can carry the supported CAMEL phases and the Offered CAMEL 4 CSIs for the interrogating node (which can be a GMSC or a gsmSCF).

4.2.4 Location services for Rel-5 (NP-030218)

NP-030218 contains 4 corrective CRs to the MAP specification: 2 to Release 5, each with a mirror CR for Release 6.

CR 29.002-500r5 (Rel-5, with Rel-6 mirror in CR 29.002-568r4) adds the identifier of the positioning method to the result of the Provide Subscriber Location operation and the argument of the Subscriber Location Report operation, to meet the requirements of the North American emergency services. If these look familiar, it's because earlier revisions of these CRs were presented to CN #19, but fell because the linked CRs to 23.271 were rejected in SA #19.

CR 29.002-598 (Rel-5, with Rel-6 mirror in CR 29.002-599) aligns the data type used to carry the LCS client ID with the definition of the client ID in 23.271.

4.2.5 Technical Enhancements & Improvements for Release 5 (NP-030219, NP-030220, NP-030221, NP-030222 & NP-030228)

NP-030219 contains 6 corrective CRs to the GTP specification: 3 for Release 5, each with a mirror CR for Release 6.

CR 29.060-411r1 (Rel-5, with Rel-6 mirror in CR 29.060-412r1) adds a new error cause for the case when the user has attempted to access an APN for which a subscription is required but the user has no such subscription.

CR 29.060-419r2 (Rel-5, with Rel-6 mirror in CR 29.060-420r2) defines the Tunnel Endpoint ID value zero as reserved, and defines the cases for which the reserved value is used.

CR 29.060-421 (Rel-5, with Rel-6 mirror in CR 29.060-422) aligns the length of the QoS IE with the definitions in 24.008.

NP-030220 contains one corrective CR to the specification of the application of the ITU-T Q.1900 series recommendations to the bearer independent architecture and one corrective CR to the protocol specification for the Mc interface.

CR 29.205-006r2 and CR 29.232-057r1 each update the references to reflect the renumbering of recommendation H.248 by ITU-T.

NP-030221 contains one corrective CR to the stage 2 specification for mobile number portability (MNP).

CR 23.066-023r1 defines the method for the IN-based solution for MNP to be able to apply different charging for on-net and off-net calls from pre-paid subscribers in an MNP environment.

NP-030222 contains one corrective CR to the stage 2 specification for transcoder free operation (TrFO).

CR 23.153-051r2 adds the missing description of the handling of inter-MSC SRNS relocation with TrFO.

NP-030228 contains 13 corrective CRs to the MAP specification: one for Release 5, with no mirror for Release 6, and 6 for Release 5, each with a mirror for Release 6.

CR 29.002-617 (Rel-5 only) corrects a formal error in the ASN.1 syntax definition of SendIdentificationRes. This is a subtle error: there was a missing newline character, which caused the ASN.1 compiler to skip an element of SendIdentificationRes! The error was observed and corrected as part of a change request to Release 6 which was approved in CN #19.

CR 29.002-606r1 (Rel-5, with Rel-6 mirror in CR 29.002-607r1) provides SDL source files and removes redundant text from chapter 22.

CR 29.002-635 (Rel-5, with Rel-6 mirror in CR 29.002-595r2) removes redundant text from chapter 23. The SDL source files were already provided in CR 29.002-523 (Rel-5, with Rel-6 mirror in CR 29.002-524), approved at CN #19.

CR 29.002-593r2 (Rel-5, with Rel-6 mirror in CR 29.002-594r2) provides SDL source files and removes redundant text from chapter 24.

CR 29.002-578r1 (Rel-5, with Rel-6 mirror in CR 29.002-579r1) provides SDL source files and removes redundant text from chapter 24A.

CR 29.002-580 (Rel-5, with Rel-6 mirror in CR 29.002-581) provides SDL source files and **adds text to** chapter 24B; chapter 24B contained no text to accompany the SDL diagrams, apart from the subclause headings!.

CR 29.002-634 (Rel-5, with Rel-6 mirror in CR 29.002-574r1) provides SDL source files and removes redundant text from chapter 25.

4.2.6 Early UE handling (NP-030223, NP-030224, NP-030225, NP-030226 & NP-030227)

NP-030223 contains one corrective CR to the stage 2 specification of data stored in location registers and 2 corrective CRs to the GTP specification: one for Release 5, with a mirror for Release 6. This package of CRs is independent of whether the IMEISV or the bit-map of UE faults (BMUEF) is transferred from the CN to the AN, and of whether the UE-specific behaviour information (UESBI) is transferred in the GERAN.

CR 23.008-068r1 defines the storage of the UE-specific behaviour information (UESBI) in the VLR and SGSN.

CR 29.060-423 (Rel-5, with Rel-6 mirror in CR 29.060-424) defines the IMEISV as part of the information transferred in the MM context.

NP-030224 contains one corrective CR to the stage 2 specification of procedures in the network for location management, one corrective CR to the stage 2 specification of basic call handling, one corrective CR to the specification of the mapping between MAP and access signalling and 4 corrective CRs to the MAP specification: 2 for Release 5, each with a mirror CR for Release 6. This package of CRs is required if the BMUEF is transferred from the CN to the AN, **and** the UESBI is not transferred in the GERAN.

CR 23.012-010r1 defines the procedure to retrieve the BMUEF at location area update.

CR 23.018-124r1 defines the procedure to retrieve the BMUEF when the UE requests access to the network to make a mobile-originated call or to repond to paging for a mobile-terminated call.

CR 29.010-089r1 defines the handling of the UESBI in the relay MSC at inter-MSC handover.

CR 29.002-609r1 (Rel-5, with Rel-6 mirror in CR 29.002-610r1) defines the transfer of the BMUEF at inter-MSC handover.

CR 29.002-611r1 (Rel-5, with Rel-6 mirror in CR 29.002-612r1) defines an enhancement of the CheckIMEI operation to allow the BMUEF to be retrieved from an external database.

NP-030225 contains one corrective CR to the stage 2 specification of procedures in the network for location management, one corrective CR to the stage 2 specification of basic call handling, one corrective CR to the specification of the mapping between MAP and access signalling and 2 corrective CRs to the MAP specification: one for Release 5, with a mirror CR for Release 6. This package of CRs is required if the IMEISV is transferred from the CN to the AN, **and** the UESBI is not transferred in the GERAN.

CR 23.012-011 defines the procedure to retrieve the IMEISV at location area update.

CR 23.018-125 defines the procedure to retrieve the IMEISV when the UE requests access to the network to make a mobile-originated call or to repond to paging for a mobile-terminated call.

CR 29.010-089r1 defines the handling of the UESBI in the relay MSC at inter-MSC handover.

CR 29.002-627r1 (Rel-5, with Rel-6 mirror in CR 29.002-628r1) defines the transfer of the IMEISV at inter-MSC handover.

NP-030226 contains one corrective CR to the stage 2 specification of procedures in the network for location management, one corrective CR to the stage 2 specification of basic call handling, one corrective CR to the specification of the mapping between MAP and access signalling and 2 corrective CRs to the MAP specification: one for Release 5, with a mirror CR for Release 6. This package of CRs is required if the BMUEF is transferred from the CN to the AN, **and** the UESBI is transferred in the GERAN.

CR 23.012-010r1 defines the procedure to retrieve the BMUEF at location area update.

CR 23.018-124r1 defines the procedure to retrieve the BMUEF when the UE requests access to the network to make a mobile-originated call or to repond to paging for a mobile-terminated call.

CR 29.010-090 defines the handling of the UESBI in the relay MSC at inter-MSC handover.

CR 29.002-611r1 (Rel-5, with Rel-6 mirror in CR 29.002-612r1) defines an enhancement of the CheckIMEI operation to allow the BMUEF to be retrieved from an external database.

NP-030227 contains one corrective CR to the stage 2 specification of procedures in the network for location management, one corrective CR to the stage 2 specification of basic call handling and one corrective CR to the specification of the mapping between MAP and access signalling. This package of CRs is required if the IMEISV is transferred from the CN to the AN, **and** the UESBI is transferred in the GERAN.

CR 23.012-011 defines the procedure to retrieve the IMEISV at location area update.

CR 23.018-125 defines the procedure to retrieve the IMEISV when the UE requests access to the network to make a mobile-originated call or to repond to paging for a mobile-terminated call.

CR 29.010-090 defines the handling of the UESBI in the relay MSC at inter-MSC handover.

Depending on the decisions taken in RAN and GERAN, the package of CRs in NP-030223 and **one** of the packages of CRs in NP-030224, NP-030225, NP-030226 & NP-030227 should be approved in CN #20 to complete the work of CN4 for "Early UE" handling.

4.3 Release 6 CRs

4.3.1 Technical Enhancements & Improvements for Release 6 (NP-030230)

NP-030230 contains one CR to the GTP specification.

CR 29.060-410 (Rel-6) defines a method for the operator to enable or disable compression in the SGSN for each APN.

4.3.2 Location services enhancements (NP-030231)

NP-030231 contains 2 CRs to the MAP specification to support Location services enhancements in Release 6.

CR 29.002-608r1 adds the possibility to carry Release-6-specific LCS capability information in the SendRoutingInfoForLCS response.

CR 29.002-624r1 adds the possibility to carry in the ProvideSubscriberLocation request the definition of the action to be taken according to the outcome of the LCS privacy check.

5 Draft Technical specifications and reports

We have no draft technical specifications or reports to present to CN #20

6 Work organisation

6.1 Work Item descriptions (NP-030229)

We have one work item description, which is in NP-030229. This is to provide the protocol enhancements to support the new IMS functions defined for Release 6, and to integrate the protocol definitions for the Cx and Dx interfaces into mainstream IETF standards track RFCs.

6.2 Review of the work plan

We did not have time to review the work plan during CN4 #19; the information in the table below is the CN4 chairman's personal assessment. At the time of drafting, the information had not been relayed to the MCC. The table does not include information on work plan items which were shown as complete in the status report to CN #19.

Table 2: Updates to the work plan from CN4

Unique ID	Description	Updated status
2028	Security enhancements; Enhanced HE control of security (including positive authentication reporting); FS on Network impacts	CN #19 decided to delete this work item.
14001	IMS Phase 2; Mn interface (IM-MGW to MGCF) enhancements	Target date for approval of new specification is now December 2003 (CN #22)
14011	Preferred Framing Protocol for bearer independent CS architecture	CN #19 decided to delete this work item.
14012	IMS Phase 2; Mp (MRFC - MRFP) interface protocol definitions	No change at CN4 #18
14013	WLAN Interworking – stage 3 definition of WLAN – 3GPP interworking	Outline of draft TS approved; technical contributions approved at CN4 #19. Estimated completion 15%
14014	Enhancements to the Cx and Sh interfaces	New work item, presented for approval at CN #20
31008	Generic User Profile; Stage 3 - Network	Outline of draft TS approved; further development awaits the maturity of the stage 2. Estimated completion 5%.
33005	Security enhancements; Rel-6 MAP application layer security; Security signalling flows for the Ze interface	CN #19 decided to delete this work item. SA3 were asked to urge companies to provide contributions to CN4 #19 if they wished to progress it, but there was no input at CN4 #19, so we can assume that the lid is still on the coffin!

7 CN4 meeting calendar

We have a calendar of meetings agreed to the end of 2003; hosts have come forward for all the definite meetings. The meetings of CN1, CN2, CN3 and CN4 in May, August and October will be collocated; if there is a meeting in November it will be CN4 "solo", which will be easier to arrange. The location of the October meeting of the collocated CN working groups has been moved from China, because of the continuing concerns over SARS; the new venue has not yet been decided, but there is a strong rumour that it may be Mexico (and yes, there **will** be GSM coverage…).

Table 3: CN4 meeting calendar to the end of 2003

Date	Meeting	Venue	Host
25 – 29 August 2003	CN4 #20	Sophia Antipolis, France	ETSI
27 – 31 October 2003	CN4 #21	?	?
17 – 21 November 2003	CN4 #22	?	To be arranged only if needed

A proposal for the CN4 meeting calendar in 2004 (thanks to Peter Schmitt for preparing this) was tabled for CN4 #19, but we didn't have time to review it. The proposal is reproduced in the table below. On the assumption that there will be 4 sets of collocated meetings of CN1 – 4 next year, maybe CN plenary is the forum to decide on the calendar.

Date	Meeting	Place	Host
16 - 20 Feb 2004	CN WGs 1, 2, 3 & 4	TBD	
10 - 12 Mar 2004	CN plenary #23	China; CN	
10 - 14 May 2004	CN WGs 1, 2, 3 & 4	TBD	
02 - 04 Jun 2004	CN plenary #24	Korea; KR	
16 - 20 August	CN WGs 1, 2, 3 & 4	TBD	
08 - 10 Sep 2004	CN plenary #25	US; US	
11 - 15 Oct 2004 or 15 - 19 Nov 2004	CN WGs 1, 2, 3 & 4	TBD	
08 - 10 Dec 2004	CN plenary #26	TBD	

7 Acknowledgments

First, I have (and it's a duty which gives me no problem at all) to thank Kimmo Kymäläinen for providing the excellent support which we have come to expect from the MCC. Kimmo has coped nobly with the problems with his travel (both ways) between Nice and San Diego, the huge number of documents we handled, the parallel sessions and the short time between CN4 and CN plenary. He **deserved** his second helping of the CN4 chairman's farewell dram!

Peter Schmitt has, as usual, been a great help in chairing the second stream of meetings; I'm sure that CN4 will be looking at a good chairman from CN4 #20 onwards; he's had plenty of practice! The CN4 participants have been even more prolific in producing documents; delegates can be thankful that we have left behind the days of paper documents, otherwise there would have been a lot of excess baggage charges to pay when people went home!

Finally, I would like to thank the hosts of our meeting. The North American Friends found us an excellent location for the meeting, with plenty of scope for extra-mural activities.

This is my last report as CN4 chairman, but CN plenary hasn't quite seen the last of me; I shall be back again as CN vice-chairman for CN #21 in Berlin.