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1. General

1.1 Last Meetings

One CN3 meeting has taken place since the last TSG-CN plenary:

- CN3#31: 16th – 20th February 2004, Atlanta, Georgia, USA, hosted by the North American Friends of 3GPP

During this meeting have taken place joint sessions

- with SA2, CN1 and CN4 on “Voice / Video calls” on 16/02/04 and
- with CN2 on “SCUDIF and CAMEL” on 16/02/04.

The detailed CN3#31 meeting report is contained in **NP-040078**.

This status report [**NP-040077**] summarises the results from that meeting and presents the current status of work in CN3.

1.2 Administrative Work

CN3 has not reviewed the 3GPP work plan in detail, but has determined the status of work for every Rel-6 work item.

CN3 has reviewed the list of specifications that are under its responsibility. New rapporteurs are assigned for some specifications.

2. Work Items Rel-4 and earlier

There are no Change Requests for Rel-4 and earlier Releases.

3. Work Items Rel-5

3.1 Service Change and UDI fall back for CS multimedia (SCUDIF)

CN3 has agreed 3 CRs against TS 23.172:

- a correction for Camel interworking (N3-040119) that specifies that interactions with Call Party Handling, Camel in-band information and user interactions are only allowed when the call is a speech call and it cannot become a multimedia call.
- a correction for user interactions (N3-040120) that details the specification of user interaction and in-band information and
- a correction (N3-040091) for the parameters needed in the MAP message SRI ack (long forwarded-to number id now included) and clarification for the interworking with call forwarding and call deflection supplementary services.

The CRs are contained in **NP-040081**.

3.2 End-to-end Quality of Service: Go interface

CN3 has discussed the issue how to modify the session when bidirectional media become unidirectional, i.e. when bidirectional media are put on hold with the “sendonly” or “receiveonly” SDP attribute. CN1 recommended to close the gates, but not to enforce a PDP context modification. CN3 follows this recommendation and implements this by two CRs (N3-040116 and N3-040117).

A CR (N3-040132) includes the traffic handling priority into the TS 29.208 QoS mapping tables. Another CR (N3-040131) declares the related QoS mapping table for the GGSN in TS 29.207 as mandatory to align it with TS 29.208.

TS 29.208 contains rules for the decision about the type of service. The UE and the PDF need to decide on the type of service, i.e. streaming or conversational service, for media components of type “audio” and “video”. A CR is necessary to correct one of these rules (N3-040067).

The CRs agreed by CN3 for the Go interface for TS 29.207 and TS 29.208 are contained in document **NP-040080**.

3.3 Technical Enhancements and Improvements

The CR in **NP-040082** (N3-040024) against TS 29.007 clarifies the signalling of LLC and HLC in V-MSC. This corrects a mistake that was accidentally introduced by a former CR. This CR is for Rel-5 only.

4. Work Items Rel-6

4.1 Interworking between the IM Subsystem and IP networks

CN3 has discussed the status of TS 29.162, which is not yet approved by the plenary and CN3 has not seen any contributions for one year. The TS does not contain substantial information up to now.

CN3 has provided the output of their work in co-operation with CN1 in a separate report TR 29.962. The result of this work and related decisions mainly influences CN1’s specifications but not TS 29.162. However, the TS 29.162 might be useful to describe the stage 3 of the interworking between IPv4 and IPv6 at the edge of the IMS. SA2 has agreed related stage 2 contributions, but the stage 2 is not yet finalised. In a chairmen’s meeting on the work plan, it was confirmed that this stage 2 work will be completed before June 2004.

4.2 Interworking between the IM Subsystem and CS networks

CN3 has agreed several CRs against TS 29.163 that are contained in document **NP-040083**:

- to implement the handling of forking (N3-040095, N3-040097, N3-040123)
- to add some notes stating that the optional Reason header in SIP messages can be mapped to the ISUP Cause Value, but the mapping between them is out of the scope of the TS (N3-040121)
- to add a list of differences to ITU-T Q.1912.5 as an informative Annex (N3-040122) and
- to add suitable triggers for the sending of SIP UPDATE to cover BICC backward bearer setup and BICC tunnelling (N3-040124)

The CRs on the handling of forking are based on a concept with simplified requirements. In order to get confirmation of these requirements, CN3 has sent two related Liaison Statements:

- to CN1 and SA2 to clarify, whether there are early media use cases for CS originated audio/speech calls in Rel-6 IMS (N3-040112 in **NP-040079**)
- to SA2 to seek guidance if it is acceptable that the MGCF requests sequential forking using “draft-ietf-sip-callerprefs”. This would rule out that several media are received in parallel (N3-040106 in **NP-040079**).

There was a discussion document in CN3 that discussed details lacking from TS 29.163 on how to achieve TrFO for the interworking between IMS and a BICN using BICC and OoBTC. CN3 has not reached conclusions on all of the proposed changes. However, it has to be checked which proposals are covered by the existing work item. CRs are expected to the next CN3 meeting.

4.3 Mn Interface

Document **NP-040084** contains one CR on the handling of forking that is related to the Mn interface and to the bundle of CRs in NP-040083 with respect to the same topic.

4.4 End-to-end Quality of Service, Gq interface

CN3 was able to agree that the Gq interface will be based upon Diameter. This had previously been a working assumption only.

This decision was possible after receiving two Liaison Statements from SA2 and SA3 on the security implications of the Diameter protocol. They stated that only application functions (AF) and proxies in trusted domains need to be supported and that Diameter with NDS/IP is suitable to supply the required security in this scenario.

In detail, it was decided to use NASREQ as the Diameter application and to reuse existing command codes and AVPs (from Diameter base protocol and NASREQ). Also new AVPs need to be created. Whether the AVP codes of these new AVPs are allocated from IANA (have "global" meaning) or defined only within 3GPP specifically for Gq i/f is FFS. Furthermore, it was agreed to use of vendor specific application id (to be requested from IANA).

Two discussion documents on the contents and encoding of the service information at the Gq interface were presented. As result of the discussion CN3 agreed the following principles:

- The application specific service information is mapped to a general format for the service information at the Gq interface at the AF and then to the authorised QoS at the Go interface at the PDF. The Go interface should remain unmodified compared to Rel-5.
- The service information at the Gq interface is derived from SDP.
- The Gq interface encoding should allow the transport of the identified information.
- Allow a coarse grain filter control concept at Gq, where gates are derived from service information at the PDF.

The following CRs against draft TS 29.209 were agreed:

- N3-040033 contains some mostly minor improvements.
- N3-040129 provides Diameter definitions of Gq messages
- N3-040130 contains a description of the Gq message usage
- N3-040103 contains Gq AVPs
- N3-040078 adds a section on securing Diameter messages
- N3-030105 adds a section on advertising application support.

These CRs are not presented to CN#23 since TS 29.209 is not yet under change control. An updated version of TS 29.209 will be supplied in N3-040135.

A CR against TS 29.208 (N3-040128) to update the Gq message flows with Diameter NASREQ command names was also agreed, but is also not sent to CN#23 for approval. It is added to the file of CRs currently put on hold until the Gq interface becomes more stable. CN3 agreed to maintain unofficial Rel-6 versions of TS 29.207 and TS 29.208 handled in CN3 only containing agreed CRs until Gq becomes stable. This has become necessary in order to handle CRs that impact already updated parts.

Some issues related to the end-to-end Quality of Service are still open for Rel-6:

- A bundle of CRs related to forking are postponed to the next meeting since they are related to the overall Gq encoding concept that must be agreed before.

- SA2 informed CN3 that it is allowed to bundle media components from different IMS sessions into the same PDP Context in Rel-6. SA2 asks for information from CN3 about possible impacts of this change regarding Service-Based Local Policy mechanisms. CN3 postponed the issue to the next meeting to have time for investigations.
- CN3 replied to SA2 with copy to CN1 (N3-040111 in **NP-040079**) to answer questions on the impact of an RTP/RTCP split on separate PDP contexts on the Go interface. Although the Go interface was developed with the assumption that RTP and RTCP are transported in the same PDP context, the Go interface is able to support a transport in separate PDP contexts also. However, it is still necessary to clarify some details where several WGs are included. CN3 will wait with possible CRs related to this issue until the discussions about the RTP/RTCP handling are finalised.
- There are also some CRs for TS 29.207 and 29.208 put on hold until the Gq interface specification is completed.

4.5 MBMS, Gmb interface

CN3 is responsible for the standardisation of the Gmb interface for MBMS (Multimedia Broadcast and Multicast Service). It was not possible to find a final decision of the protocol to be used for the Gmb interface. However the working assumption from the earlier CN3 meetings to use Diameter is still valid.

4.6 Support of Presence Capability, Pk interface

CN3 is responsible for the standardisation of the Pk interface for the support of the Presence Capability, but has not seen any contributions so far.

4.7 WLAN

CN3 is responsible for a stage 3 description for the Wi interface that is required in scenario 3 of the WLAN architecture. It was decided not to include this interface specification in the existing TS 29.061 for GPRS, but to create a new specification for that purpose. A first draft was presented to CN3#31.

4.8 Technical Enhancements and Improvements

4.8.1 Radius at GGSN

There were 2 CRs against TS 29.061 for Rel-6 requesting the transport of the parameters IMEISV and TFT via the Gi interface by Radius. The CR for IMEISV (N3-040114) was agreed. It is presented in **NP-040085** for Rel-6 only.

The TFT CR was updated in the sense that not the whole TFT should be transported via the Gi interface but only the packet filters contained in the TFT. The CR (N3-040113) was postponed to next meeting to give time for further considerations.

4.8.2 SCUDIF

CN3 agreed a CR for TS 23.172 on network initiated service change for SCUDIF (N3-0400115 in **NP-040086**) that allows the network to change the service from multimedia to speech during the active call if sufficient resources for multimedia are no longer available. If these resources become available again at a later point in time, the network may initiate a service change from speech to multimedia. This CR was agreed under the condition that a related CR by SA1 (see S1-040215) describing the corresponding requirements will be approved by SA#23.

5. Output Documents

5.1 Change Request

| CN tdoc # | CN3 tdoc # | Title | Spec | CR # | Rev | Cat | Rel | Work Item |
|-----------|------------|--|--------|------|-----|-----|-------|--------------|
| NP-040081 | N3-040119 | SCUDIF corrections for CAMEL interworking | 23.172 | 022 | 2 | F | Rel-5 | SCUDIF |
| NP-040081 | N3-040120 | SCUDIF corrections for user interaction | 23.172 | 023 | 2 | F | Rel-5 | SCUDIF |
| NP-040081 | N3-040091 | SCUDIF corrections for ISUP/BICC interworking | 23.172 | 024 | 2 | F | Rel-5 | SCUDIF |
| NP-040086 | N3-040115 | Network-Initiated Service Change for SCUDIF | 23.172 | 025 | 2 | B | Rel-6 | TEI_6 |
| NP-040082 | N3-040024 | Signaling of LLC and HLC | 29.007 | 096 | | F | Rel-5 | TEI_5 |
| NP-040085 | N3-040114 | IMEISV Passed on the Gi Interface | 29.061 | 103 | 1 | B | Rel-6 | TEI_6 |
| NP-040083 | N3-040121 | Reason Header | 29.163 | 030 | 2 | F | Rel-6 | IMS-CCR-IWCS |
| NP-040083 | N3-040122 | Informative annex for misalignments with Q.1912.5 | 29.163 | 031 | 2 | B | Rel-6 | IMS-CCR-IWCS |
| NP-040083 | N3-040124 | Criteria for sending UPDATE in BICC | 29.163 | 032 | 2 | F | Rel-6 | IMS-CCR-IWCS |
| NP-040084 | N3-040125 | Impact of Forking on Mn procedures | 29.163 | 033 | 2 | F | Rel-6 | IMS-CCR-Mn |
| NP-040083 | N3-040095 | Impact of Forking on Incoming call interworking | 29.163 | 034 | 1 | F | Rel-6 | IMS-CCR-IWCS |
| NP-040083 | N3-040123 | Impact of Forking on Outgoing call interworking | 29.163 | 035 | 2 | F | Rel-6 | IMS-CCR-IWCS |
| NP-040083 | N3-040097 | Impact of Forking on COLP supplementary service | 29.163 | 036 | 1 | F | Rel-6 | IMS-CCR-IWCS |
| NP-040080 | N3-040116 | Session modification when a bidirectional media is done unidirectional | 29.207 | 113 | 2 | F | Rel-5 | E2EQoS |
| NP-040080 | N3-040131 | Traffic handling priority in the mapping tables | 29.207 | 121 | 1 | F | Rel-5 | E2EQoS |
| NP-040080 | N3-040117 | Session modification when a bidirectional media is done unidirectional | 29.208 | 056 | 2 | F | Rel-5 | E2EQoS |
| NP-040080 | N3-040067 | Mapping tables for streaming services | 29.208 | 059 | | F | Rel-5 | E2EQoS |
| NP-040080 | N3-040132 | Traffic handling priority in the mapping tables | 29.208 | 060 | 1 | F | Rel-5 | E2EQoS |

5.2 Liaison Statements

The following Liaison Statements are contained in **NP-040079**.

| Tdoc # | Tdoc Title | LS to | LS cc | Attachment |
|-----------|---|----------|-------|------------|
| N3-040106 | LS on MGCF requesting sequential forking | SA2 | CN1 | |
| N3-040111 | LS reply to RTP / RTCP split | SA2 | CN1 | |
| N3-040112 | LS on early media and IMS/CS interworking | CN1, SA2 | | |

5.3 Work Items

CN3 does not provide any new Work Item Description sheet to CN#23.

5.4 Technical Reports and Technical Specifications

CN3 does not provide any new TRs / TSs to CN#23.

6. Next Meetings

Next CN3 meetings are scheduled as follows:

| Meeting | Date | Location |
|---------------|---|--------------------------|
| TSG-CN3#31bis | 30 th March – 2 nd April 2004 | Sophia Antipolis, France |
| TSG-CN3#32 | 10 th – 14 th May 2004 | Zagreb, Croatia |
| TSG-CN3#33 | 16 th – 20 th August 2004 | Sophia Antipolis, France |
| TSG-CN3#34 | 15 th – 19 th November 2004 | Asia |

Note, the TSG-CN WG3#31bis meeting is related to Rel-6 Work Items only.

7. Acknowledgements

I would like to thank the delegates for their contribution to the meetings, the North American Friends of 3GPP for hosting the meeting. David Boswarthick, MCC, deserves special thanks for the preparation of the meeting. Special thanks also to Karen Hughes, MCC. She replaced David during the meeting in a professional manner and she has also provided an excellent report.