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1. General

1.1 Last Meetings

Two CN3 meetings have taken place since the last TSG-CN plenary:

?? CN3#21 28th January – 1st February 2002, Sophia Antipolis, France, hosted by ETSI.

?? CN3#21bis 25th – 27th February 2002, Sophia Antipolis, France, hosted by ETSI.

The detailed CN3 meeting reports are contained in **NP-020071** (CN3#21) and **NP-020072** (CN3#21bis). This status report summarises the results from these meetings and presents the current status of work in CN3.

1.2 Administrative Work

CN3 has reviewed and provided comments to the 3GPP work plan. These comments have been sent to MCC.

CN3 has reviewed the list of specifications for which it is responsible. Comments have not been made. Dependencies to IETF and ITU-T specs have been identified. These information will be incorporated into the Work Plan and also on the IETF tracking document on the 3GPP Web side.

2. Work Items R99 and earlier

2.1 GPRS

Some corrections for the solution to transfer the user identity from GGSN to an application server by means of the Radius protocol are still necessary. The CRs for R97, R98, R99 and Rel-4 are included in document **NP-020080**.

3. Rel-4 Work Items

3.1 Bearer independent circuit switched Core Network

One change request against TS 29.414 was agreed by CN3 that corrects an outdated reference and provides an alignment with 25.414. Document **NP-020082** contains this CR.

3.2 Facsimile

The circuit switched facsimile service exists in GSM only in the transparent mode and in UMTS only in the non-transparent mode from Rel-4 onwards. Therefore, some negotiation rules between both of the modes are no longer applicable. Document **NP-020081** contains related CRs against TS 27.001 Rel-4 and Rel-5.

4. Rel-5 Work Items

4.1 Interworking between the IM Subsystem and IP networks

CN3 received an LS from SA2 regarding the IPv6 to IPv4 interworking. SA2 acknowledges that this topic has architectural impacts and is intending to study this topic. SA2 asks CN1 and CN3 to wait with own related work until the SA2 work is stable.

CN3 also received an LS from SA4 about codecs used in IP networks. The related information was added as an informative Annex to TS 29.162. The user plane itself is described within SA4's specifications TS 26.234 and 26.235.

Further, the reference architecture in TS 29.162 was updated according to SA2's decision to implement an Mb interface. The MRF is now identified as the IMS network entity that provides user plane transcoding.

The control plane interworking is not yet complete. The need for specifying the interworking between the 3GPP profile of SIP and standard IETF SIP is still under discussion (in CN1 and CN3). Although some scenarios have already been identified that need a specification of interworking, some companies still object the need for such specification and prefer a handling of any differences between 3GPP profile of SIP to standard IETF SIP within the UE directly. It is also not yet decided in the related stage 2 work where the interworking point is located. But this has impact on the interworking scenarios on stage 3 level. Therefore, CN3 has decided to start the work by investigating topics that might require interworking. This work will be included in a separate Technical Report at the moment. The interworking problems shall be described and possible solutions shall be suggested. It was agreed to focus on problems related with draft-ietf-sip-100rel-03.txt (PRACK message, now included as option in draft-ietf-sip-rfc2543bis-06.txt) and draft-ietf-sip-manyfolks-resource-02.txt (COMET message). A first draft version of this TR was presented during CN3#21 meeting and the work will continue via the CN3 email exploder.

The work concerning this Work item is characterised by the following items:

- ?? Specification of user plane interworking (transcoder) can be considered as complete from CN3's perspective. However, additional specification work regarding the SIP signalling to the MRFC over the Mr interface and the control of the MRFP over the Mp interface is still required.
- ?? Need for an interworking between 3GPP profile of SIP and IETF SIP is still under discussion. CN3 is going to investigate this issue in a separate TR.
- ?? Ongoing discussion about IPv4 and IPv6 interworking in SA2. CN1 and CN3 are asked to wait with their work.
- ?? Location of interworking function for the control plane is still under discussion in SA2.
- ?? Work Item is not complete.

These items have been taken into account when CN3 has decided to move the finalisation date to March 2003. The work item will probably focus on IPv4 to IPv6 translation and possible interworking between standard SIP and SIP with 3GPP profile.

The Work Item Description sheet was changed according to the decisions and is presented in document **NP-020074**. Also the specification TS 29.162 was updated accordingly and a new version 1.0.0 is presented for information to CN#15 in document **NP-020076**.

4.2 Interworking between the IM Subsystem and CS networks

The reference architecture of TS 29.163 was updated by replacing the Gi interface with the Mb interface due to a decision by SA2. A clause requiring Diffserv code-point marking in the IMS-MGW was also added.

The work concerning this Work item is characterised by the following items:

- ?? All call flows are moved to TS 24.228. Interworking between SIP and BICC/ISUP will not be detailed in TS 29.163, only references to related specifications in ITU-T.
- ?? Work for TS 29.163 is completed at the moment. Additional updates seem to be necessary when the ITU-T recommendations are available.
- ?? Required ITU-T specification on SIP to BICC / ISUP interworking is outstanding (moved from February 2002 to November 2002)

CN3 has decided to move the finalisation date to June 2003. The dependency on the work of ITU-T SG11 on SIP to ISUP/BICC interworking remains the blocking point.

TS 29.163 was also updated accordingly and a version 1.2.0 is presented to CN#15 for information in document **NP-020077**. The Work Item Description sheet was also changed accordingly and is presented in document **NP-020075**.

4.3 End-to-end QoS

About 20 QoS related contributions dealt with the protocol selection for the Go interface and additions to the two specifications TS 29.207 and TS 29.208 for Release 5.

Since the work for Rel5 could not yet be completed due to a lack of time to merge contributions, it was agreed to have an additional CN3#21bis meeting 25th – 27th February 2002 to progress the work in time for Release 5. This meeting was exclusively dedicated to End to End Quality of Service, Stage 3 work.

4.3.1 Protocol Selection for the Go interface

Although TS 23.207 already defines the COPS framework for the Go interface and thereupon COPS-PR was selected by CN3, a discussion about the most appropriate protocol came up again. It was initiated by a question from Bert Wijnen (IETF Area Director for Operations and Management) about the necessity to standardise PIBs and about the usage of COPS-PR within 3GPP.

This topic was first discussed during the last SA2 meeting which resulted in a LS to CN3 clarifying the requirements for the Go interface and acknowledging that CN3 is responsible for the protocol selection.

The discussion in CN3 again outlined all reasons why COPS-PR was selected for the Go interface. Several contributions proposed the use of DIAMETER or SNMP with RADIUS, respectively, for the Go interface. Technical and non-technical aspects were considered when comparing the various alternatives. After extensive discussions it was concluded that there is not enough support neither for DIAMETER nor for SNMP/RADIUS within CN3. The contributors chose to withdraw their proposals. CN3 will pursue standardising the Go interface based on COPS-PR.

4.3.2 QoS Mapping

CN3 has been tasked by a joined session with SA2 during the CN3#20 meeting in Cancun to develop QoS mapping rules for SDP into UMTS QoS parameters applying both at the UE and within the core network, e.g. at the P-CSCF. The aim of the QoS mapping rules is to ensure the control of UMTS QoS parameters over the Go interface. The need for defining UMTS QoS parameter value ranges for different applications was identified. A work split among several Working Groups is necessary. CN3 has started to co-ordinate the work by sending an LS proposing the following work split:

- ?? SA1 is responsible for specifying the end-user performance expectations for applications within 3GPP.
- ?? SA4 has the competence for specifying the UMTS QoS parameters value ranges for media flows using codecs.
- ?? RAN WGs have the competence for giving input to the spectrum efficient Radio Bearers corresponding to the UMTS QoS parameters.
- ?? T1 has the responsibility for UE Conformance Testing.
- ?? CN3 has to specify the mapping of SDP parameters to IP QoS and to UMTS QoS parameters.

4.3.3. The specifications and the WID sheet

For this work item "end-to-end QoS", two new specifications have to be completed:

- ?? TS 29.207, Policy control over Go interface, and
- ?? TS 29.208, End-to-end QoS signaling flows.

A separate CN3#21bis meeting took place to make progress regarding these specifications, that are provided as version 1.0.0. to CN#15 for information in **NP-020078** and **NP-020079**.

The main problems identified during the work are the inconsistency of statements in related stage 2 specifications, the inconsistency between statements of received Liaison Statements with statements in the standards and decisions by other working groups that impact the Go interface that are not or not yet officially reported to CN3. Main reason for that could be that in a very short time a lot of meetings took place.

However, CN3 is of the opinion that the specifications could be completed within a 3 month time frame if the scope of Release 5 will be frozen at CN#15 that guarantees that any new requirements will not come.

The Work Item Description sheet was updated and is provided in document **NP-020086**.

4.4 Service Change and UDI fall back for CS Multimedia

The Change Requests against 27.001 and 29.007 for the Work Item on circuit switched Multimedia service change and fall back for UDI connections were presented, several times improved, and finally agreed. They can be found in document **NP-020083**. The Work Item is complete for Release 5 from CN3's perspective although some discussions can still be expected on service aspects in SA1 (Liaison statement from CN1 to SA1).

4.5 Technical Enhancements and Improvements

CN3's rapporteurs have provided Change Requests against their specifications TS 29.414, 29.415, 43.010 and 43.045 to include or to correct the new terminology requested by GERAN. These Change Requests for Rel-5 are contained in document **NP-020085**.

At the CN3#19 meeting a discussion on the single-numbering scheme for mobile terminated calls was initiated. Instead of using the multi-numbering scheme to derive a service it was proposed to extent the single-numbering scheme by providing additional information to the Mobile Station to enable it to derive a service. Such an approach is of interest because it saves MSISDNs. However, the presented solution was rejected, because it considered only multimedia calls and provided only limited information to the Mobile Station. A more comprehensive solution was required. Such a proposal was presented at the CN3#20 meeting. Improved Change Requests were provided and agreed at CN3#21 meeting. They are contained in document **NP-020084**.

5. Output Documents

5.1 Change Request

| CN Doc # | CN3 Doc # | Spec | Tdoc Title | CR # | Rev | CAT | Rel | Vers | WI |
|-----------------|------------------|-------------|--|-------------|------------|------------|------------|-------------|-----------|
| NP-020080 | N3-020075 | 09.61 | Change of associated attribute for 3GPP-NSAPI | A031 | | F | R97 | 6.6.0 | GPRS |
| NP-020080 | N3-020076 | 09.61 | Change of associated attribute for 3GPP-NSAPI | A032 | | A | R98 | 7.5.0 | GPRS |
| NP-020080 | N3-020077 | 29.061 | Change of associated attribute for 3GPP-NSAPI | 037 | | A | R99 | 3.8.0 | GPRS |
| NP-020080 | N3-020078 | 29.061 | Change of associated attribute for 3GPP-NSAPI | 038 | | A | Rel-4 | 4.3.0 | GPRS |
| NP-020080 | N3-020079 | 29.061 | Change of associated attribute for 3GPP-NSAPI | 039 | | A | Rel-5 | 5.0.0 | GPRS |
| NP-020081 | N3-020085 | 27.001 | Negotiation of parameter values for facsimile | 073 | 1 | F | Rel-4 | 4.6.0 | Facsimile |
| NP-020081 | N3-020086 | 27.001 | Negotiation of parameter values for facsimile | 074 | 1 | A | Rel-5 | 5.0.0 | Facsimile |
| NP-020082 | N3-020061 | 29.414 | Update reference to I.363.2 | 006 | | F | Rel-4 | 4.3.0 | CSSPLIT |
| NP-020083 | N3-020090 | 27.001 | Service change and fall back for UDI/RDI multimedia services | 071 | 5 | C | Rel-5 | 5.0.0 | SCUDIF |
| NP-020083 | N3-020091 | 29.007 | Service change and fall back for UDI/RDI multimedia services | 046 | 4 | C | Rel-5 | 5.0.0 | SCUDIF |
| NP-020084 | N3-020100 | 27.001 | Mobile terminated call with single numbering scheme | 075 | 1 | B | Rel-5 | 5.0.0 | TEI_5 |
| NP-020084 | N3-020099 | 29.007 | Mobile terminated call with single | 049 | 1 | B | Rel-5 | 5.0.0 | TEI_5 |

| CN Doc # | CN3 Doc # | Spec | Tdoc Title | CR # | Rev | CAT | Rel | Vers | WI |
|-----------|-----------|--------|--|------|-----|-----|-------|-------|-------|
| | | | numbering scheme | | | | | | |
| NP-020085 | N3-020062 | 29.414 | Add GERAN lu mode to scope | 007 | | D | Rel-5 | 4.3.0 | TEI_5 |
| NP-020085 | N3-020063 | 29.415 | Add GERAN lu mode to scope | 005 | | D | Rel-5 | 4.2.0 | TEI_5 |
| NP-020085 | N3-020092 | 43.010 | Terminology clarifications as requested by TSG GERAN | 005 | 1 | D | Rel-5 | 4.1.0 | TEI_5 |
| NP-020085 | N3-020065 | 43.045 | Terminology clarifications as requested by TSG GERAN | 001 | | D | Rel-5 | 4.0.0 | TEI_5 |

5.2 Liaison Statements

The Liaison Statements are contained in **NP-020073**.

| Tdoc # | Tdoc Title | LS to | LS cc | Attachment |
|-----------|--|--------------------------------|-------|------------|
| N3-020108 | Requirements for Go interface | SA2 | | |
| N3-020119 | Procedure for specifying UMTS QoS Parameters per Application | SA1, SA4, RAN1, RAN2, RAN4, T1 | SA2 | N3-020118 |

5.3 Work Items

The Work Item Description sheets are contained in the following documents:

| Tdoc # | Tdoc Title |
|-----------|--|
| NP-020074 | Interworking between IM CN subsystem and IP networks |
| NP-020075 | Interworking between IM CN subsystem and CS networks |
| NP-020086 | End-to-end Quality of Service, stage 3 |

5.4 TRs and TSs

| Tdoc # | Number | Version | Rel | Title | Rapporteur | Company |
|-----------|--------|---------|-------|--|----------------|----------|
| NP-020076 | 29.162 | 1.0.0 | Rel-5 | Interworking between the IM CN subsystem and IP networks | Nigel Holland | mmO2 |
| NP-020077 | 29.163 | 1.2.0 | Rel-5 | Interworking between the IM CN subsystem and CS networks | Dave Sanders | Vodafone |
| NP-020078 | 29.207 | 1.0.0 | Rel-5 | Policy control over Go interface | Daisuke Yokota | Lucent |
| NP-020079 | 29.208 | 1.0.0 | Rel-5 | End-to-end QoS signaling flows | Daisuke Yokota | Lucent |

6. Next Meetings

Next CN3 meetings are scheduled as follows:

| Meeting | Date | Location, Host |
|------------|-----------------------------|---|
| TSG-CN3#22 | 8th - 12th April 2002 | Ft. Lauderdale, USA, NA Friends of 3GPP |
| TSG-CN3#23 | 13th - 17th May 2002 | Amsterdam, Netherlands, Ericsson |
| TSG-CN3#24 | 29th July - 2nd August 2002 | Helsinki, Finland, Sonera |

7. Acknowledgements

I would like to thank the delegates for their contribution to the meetings, ETSI for hosting the meetings. Special thanks to David Boswarthick, MCC, for the support during and between the meetings.