

Source: TSG-CN2 chairman
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Subject: Summary Report of the TSG-CN2 for the TSG-CN#11

TSG-CN2 has held two meetings since the last plenary;

- January 15 - 19, Beijing, China, hosted by Ericsson and
- February 26 – March 2, Sophia Antipolis, France, hosted by ETSI

1 CAMEL phase 1 (R96)

Not changed.

2 CAMEL Phase 2 (R97)

Not changed

3 CAMEL phase 3 (R99)

In both meetings the half of the focus was in CAMEL phase 3. The progress by functionality;

- GPRS inter-working was the subject of most work. A number of corrections were made. The most important changes were the following:
 - An indication of routing area update (RAU) was added to SGSN->SCP interface. The SCP can use the indication to know whether it shall store data and wait for a new contact from another SGSN for the same PDP context.
 - The SCP modification of the Access Point Name (APN) was clarified. The change includes clarification between CAMEL Detection Points (DP) and "APN and GGSN selection" procedure of GPRS stage 2. Also the usage of partial APN was clarified. Furthermore, an indication of a secondary PDP context was added to the SGSN->SCP information flow to prevent APN change in such cases.
 - Various small corrections.
- MO SMS: LocationNumber is now conditional parameter (MSC->SCP).
- Call Gapping / SCP load control: A small SDL correction.
- Dialed services: CN2 endorsed a MAP (29.002) correction of the D-CSI.
- CF notification: The triggering at call forwardings was clarified. The CAMEL3 new trigger detection points (TDP) cause triggering unless there is already an existing CAP dialogue for the particular call.
- ATM/ATSI: No change.
- The usage of the MSISDN as an alternative for IMSI for the USSD in the HLR-SCP interface was clarified.
- The CN2 discussed support of earlier CAMEL phases. The MAP protocol supports indication of supported CAMEL phase-by-phase. The SA1 has decided that
 - If a VPLMN supports CAMEL2, it must also support CAMEL1.
 - If a VPLMN supports CAMEL3, it must also support CAMEL2 and CAMEL1.
 - If a VPLMN supports CAMEL4, it must also support CAMEL3 and CAMEL2. The CAMEL1 support is then optional.

The CN2 chairman's personal view is that now the CAMEL3 is quite stable, no major errors exist. The changes are becoming more and more editorial in their nature. Individual errors will be spotted while the vendors and operators progress in their CAMEL3 development – exactly the same that happened with CAMEL2.

4 3GPP Rel-4

In the 3GPP release 4 there is no new CAMEL phase. The following Rel-4 issues are worth noting:

- SS7-over-IP: The CAP will be conveyed over IP. CN2 approved CRs for Rel-4. The CAP protocol can be carried over IP hop-by-hop basis. Since the CN4 has selected M3UA option the IP transport does not have an impact on CAMEL/CAP application. Although only the Rel-4 spec is update, also all the earlier CAMEL phases can be carried over the IP transport
- The GPRS barrings may have a minor impact. Not worked out by the CN2 yet.
- The 3GPP Rel-4 set of specifications will have a separate copy of R99 CAMEL3. This is similar to the R98 copy of the R97 CAMEL2.

5 CAMEL phase 4 (Rel-5)

The CN2 maintains so called "collective CRs" of other specifications that in most cases fall into remit of the CN4 (29.002, 29.079, 23.018 etc). Once CAMEL4 is stable, the CN2 will send the collective CRs to the responsible working group for approval. Most likely this will take place in the end of the year so that the December 2001 plenary can stamp the (CN4 approved) changes.

The progress by functionality:

- Call Party Handling (CPH):
 - The first junk of changes has been approved.
 - Hopefully more progress in the April CPH ad Hoc.
 - In general, CPH work is time consuming since the terminology and concepts are new for the most of the CN2 delegates. Also the service requirements differ from the fixed network capabilities, and this fact requires fine-tunings everywhere.
- Optimum Routeing: 29.079 changes were agreed, will be incorporated to the collective CR.
- CAMEL control over IPT/VoIP: The situation of the VoIP is a bit unclear, and depends on the fact whether it will be based on the CAME3 or CAMEL4. The issue was discussed in a joint meeting.
- MT SMS: The first set of CRs was approved, all relevant specs modified (Collective CRs). The MT SMS triggering criteria were approved since they are part of the CAMEL4 stage 1.
- DTMF MidCall: CRs approved.
- Flexible pre-paid warning tones: CRs approved.
- Forwarded-to number (The SCP is informed to which number call is diverted to. In CAMEL3 the SCP knows only that a call diversion will take / has taken place): CRs approved.

The CN2 got new requirements from the SA1:

- Charging Notification: Principles were discussed.
- Enhancements of dialled services: Principles were discussed.
- Called party location at the alerting phase: First CRs were approved.
- GPRS/PS mobility management enhancements: CRs were discussed but are to be revised to the next CN2 meeting (in May).

6 Other Work Items with impact on CAMEL

None

7 Rel-5 IPT/VoIP work share between CN1, CN2, CN4 and SA2.

The CN1 will define "basic call handling". The CAMEL "hooks" (procedure calls for the CAMEL specific Detection Points) will be there. The CN2 shall define the CAMEL state models and other CAMEL specifics.

8 Other issues to be mentioned

Meeting calendar for remaining year 2001 looks currently as follows:

3 – 5 April	Reading, UK (Vodafone). CAMEL4 CPH adHoc meeting.
14 – 18 May	USA (American Friends of GSM)
9 – 13 Jul	Dresden, Germany (Mannesmann)
15 – 19 Oct	UK (BT & Vodafone)
26 – 30 Nov	USA