Agenda Item: 5.1

Source: N1

Title: TSGN1 task list to get the GSM/UMTS interworking and MM in UMTS defined as part of R99 specification.

Effected Specifications:

Document for: Information

Open items list

Task	Contributor / CR	Status
Call Control BC changes to allow negotiation of high speed TCH not only using GSM multislot configuration but also UTRAN.		
How to define IEs which shall be sent in UMTS but can not be made mandatory in the PDU for R98 error handling?		
Does Anonymous Access apply to UMTS or does it not?		
GMM state model: The criteria when to send additional SERVICE REQUEST for the subsequent connections must be clarified. Proposed new state GMM-SERVICE-REQUEST-INITIATED still needs to be studied to see if substates are needed. GMM-REGISTERED.NOT-CONNECTED state is not needed but the same functionality will be achieved by agreeing 021 instead. SERVICE REQUEST collision with P-TMSI reallocation needs to be clarified.		
The GMM part in case of lower layer failure is defined in abnormal procedures. It should be checked whether release of the radio resources is well covered in the other specifications.		
Addition of P-TMSI and P-TMSI signature need to be made mandatory for all R99 implementations. However, the IE can not be "M" as this would trigger the error handling in a R99 SGSN serving an old GPRS mobile. Do we want to define error handling for the receiver? (i.e. is optional + text on _encoding_ sufficient)	Ericsson, Nokia, Siemens	N1-99F05
Selective RA update concept introduced. Is it necessary to inform the CN about the change of the system? (N1 can not proceed on this path if S2 does not decide on the Stage 2 first)		
GPRS frame length to be checked, which PDUs will need to be segmented due to the the additional IEs?		
The coding of DRX parameters IE for UMTS needs to be defined.		
QoS IE encoding and coding rules to indicate that the encoder shall always encode both old and new QoS part but the receiver may only use the part it understands.	Ericsson, Nokia, Siemens	N1-99F05
The relation of primary and secondary PDP context need to be defined.	Ericsson, Nokia, Siemens	N1-99F05
The MS behaviour after diagnosing network authentication error should be specified.		

Task list

The highlighted cells indicate top priority items

Task Description	Spec imp.	Other WGs	Contributors / CRs	Status

1. Common principles to all CRs:
Decisions on the terminology:
• A vocabulary will be defined
• All CRs must be written to comply with the vocabulary
• Additionally the unchanged sections outside the "technical" CRs will be aligned with the vocabulary by the delegations as follows:
  • Ericsson: GMM
  • Siemens: SM
  • Nokia: MM
  • Ericsson: CC
• PS = common GSM-GPRS and UMTS-PS
• GPRS = GSM packet data only
• UMTS-PS = UMTS packet data only
• PS MS must be defined. Where is GPRS MS defined.
• (GSM only), (GPRS only), (UMTS only), (UMTS-PS only)
• CKSN or Key Set Identifier: it was decided to keep the CKSN.
			Ericsson, Nokia, Siemens, Tdoc N1-99D81	N1-99E89
				
				For approval TSGN #6

2. 2G MM / GMM evolution to 3G
New functional requirements on MM + GMM to make it MM + GMM + PMM
24.008:
• Items that become conditional to GSM access only:
  • READY TIMER
  • Cell Update procedure
  • Abnormal cases such as lower layer failures
• GMM state machine adaptation to work without READY timer indication when served by UTRAN. Also other differences in states and state transitions
• RA procedure needed for GPRS -> UMTS HO even when the RA does not change.
 	
29.018:
• It has been proposed that TMSI Signature is introduced for CS side also. This means that if Gs is present then in the BSSAP+-LOCATION-UPDATE-REQUEST/ACCEPT and BSSAP+-MS-INFORMATION-RESPONSE there should be also TMSI Signature.
	24.008
	29.018
		R2, R3, SMG3A	24.008 MM: Nokia, NTTComware, DoCoMo	N1-99E35, N1-99E37, N1-99E40, N1-99E44, N1-99E65, N1-99F01, N1-99F07, N1-99F08, N1-99F34, N1-99F35, N1-99F36,
				
				For approval TSGN #6

3. Impact of LLC removal on SMS New service primitives in SMS/MM IF • The service primitives are lower priority.	24.007		Covered in other 24.007 CRs (003), Tdoc N1-99C56.	N1-99F03 For approval TSGN #6

4. Impact of LLC removal on SMS Functional requirements on the SMS and MM protocols. • Currently 23.121 describes (ch. 4.9) that SMS uses services of the RRC directly to send SMSs. • In 3G system, when SMS is needed to be send, SMS sub-layer always uses services of the PS-MM or CS-MM to send the SMS. In consequence Service Request is send to the SGSN/MSC with correct service type. In case of SMS service type (one parameter of service req message) shall indicate "signalling". This decision is already approved to be included to the 23.060. Service request message also triggers ciphering related messages between MS and network, and thus SMS will be ciphered correctly. • Due to statement above LLC removal does not impact on SMS at all, since SMS uses services of the PS-MM or CS-MM. Of course, it has minor impact for GSM-UMTS dualsystem implementation: • If camped on GSM/GPRS cell, SMS is send to the LLC when attached to GPRS, and if not, then to the CS-MM (if attached). • If camped on UMTS cell, SMS is send to the PS-MM or CS-MM depending how MS implemented and where it is attached to. • Based on the statements above, CR to 23.121 is needed, which adds PS-MM and CS-MM to the figure 53 between SMS-sublayer and RRC-layer. This will be done to the next S2 meeting if agreed at Friday meeting. • Stage 3: UMTS packet SMS uses signaling connection. SM_CL / GMM interface and functionality can be as they are in CS side. It isn't specified in GPRS/GSM which connection SMS should use.	24.008 24.011 23.121		Nokia contribution on 23.121 and 23.060 NTTComware 24.011, 24.007	N1-99F53 For approval TSGN #6
5. Stage 2 Packet stage 2 is in 23.121 and 23.060. Do we want to have some arrow diagrams in CS stage 2 also? • Inter-MSC HOs should be described in 23.009.	23.121 23.060 23.009	S2		No open questions from TSGN1 23.121 CR, see item 4. 23.009, see item 7.

6. Service continuity between 2G and 3G
• Precedence of PS versus CS in case of handing over one of each?
• Packet QoS
  • Minimum acceptable data rate to be added to QoS
• CS Bearer Cap
  • Precedence class to be added to BC
  • Mapping of common BC to UMTS and GSM RABs?
	24.008
	what else
	???
				QoS: N1-99F13
				
				For approval TSGN #6

• **7. Basic call handling changes** • N1 secondary responsibility, N2 main responsible	23.003 23.009		Ericsson	N1-99E21 For approval TSGN #6

8. Indication of the optional and conditional items
There should be textual or other indication if a definition is limited to GSM only or UMTS only. This approach has already been taken by S2 in 23.060.
procedures and terms that apply to
• GSM only
• UMTS only
• Both
• Optional procedures for both
SM:
• Addition of new state PDP modify pending for UMTS
• The concept of primary and secondary PDP context to UMTS
• Establishment of the logical link to LLC SAPI only applies to GSM
• New cases for unsuccessful PDP context activation
• New cases for PDP context modification.
• Naming of the PDUs and procedures ("GPRS")
• LLC related IEs, e.g. PDP context activation.
CC:
• References to RR
• Alternate and Followed-by services need to be removed. Note that ICM is still needed for service up- and downgrading.
• If ICM concept is extended this will impact also 27.001 (BC negotiation)
• Call Re-establishment ???
  • Is this needed at all?
  • Is this feasible at all?
  • Proposal that call re-establishment applies to GSM only
• Max. number of TCH in BC (for multislot) ???
	23.022
	23.034
	24.007
	24.008
	27.001
	etc.
			Ericsson: GMM + CC
			Siemens: SM
			Nokia: MM
				SM: N1-99F05, MM: CR list in item 2
				
				Proposals to be provided to TSGN #9

9. Suspend / Resume procedures the procedures are needed for GSM R99. Are they needed for UMTS too or do they become conditional? • Suspend and Resume procedures must be conditional. They are applicable for GSM implementation only. • Treatment of unnecessary Suspend and Resume messages need to be specified.	23.060 24.008		Nokia will provide 23.060 CR to S2 #9 24.008 part will be included in the other MM CRs	N1 part COMPLETE (included in other MM CRs)
10. Paging as CN message GPRS GMM expects an indication of incoming paging to request for PAGING RESPONSE sending. The same principle will apply to UTRAN but are the service primitives the same? • GSM Paging procedure should not be changed. • No technical changes are necessary • As the references from UMTS specifications to GSM specifications can not be avoided, then better access to GSM only specifications should be provided for the non-ETSI 3GPP members.	23.060 24.008	SMG2A 04.18 ?		N1 part COMPLETE

11. Ciphering Indication of Ciphering key and algorithm(s) to mobile. GSM uses the subset of UMTS ciph key. (64 vs. 128 bit) except for packet data GPRS to UMTS HO. CS: GSM -> UMTS specified function to derive UMTS key from GSM key. UMTS -> GSM uses specified function to derive GSM key from UMTS key. PS: GPRS -> UMTS authentication needed. • UMTS -> GPRS specified function to derive GPRS key from the UMTS key.Longer ciph key • new parameter to AUTH.REQUEST • Procedure for ME • Procedure for USIM • SRES and RAND remain as they are • Stage 2 description can be found in TS 23.060 chapter 6.8.1. UMTS Authentication mechanism is described in TS 33.102. • Length of sequence numbers • SRES, RES, AUTN, TMUI, IMUI • UIA negotiation • UEA negotiation	(23.108) 23.060 24.008			CRs drafted in N1 ad-hoc For approval TSGN #6
12. Ciphering of initial MM message No LLC -> no algorithm -> no ciphering for the initial PS GMM message S2 decision to add new message. A CR on 23.060 has been agreed. N1 have seen a Fujitsu CR on this too but not agreed yet. • Earlier Fujitsu CR proposes this. Not just starting of ciphering but service type must be indicated too: (PDP context activation, SMS sending, PDP context Re-activation,...) • Tdoc ***S2G99049*** is a CR on 23.060. It adds a Service Request message to MM establishment. This needs to be reflected in 24.008 too. • Note that additional field to add service type has been added since the latest review of the Fujitsu contribution.	23.060 24.008	R2, R3, S2	Fujitsu CR in TSGN1 #8	N1-99F31 For approval TSGN #6
13. Different subscriber identities 3G USIM may contain two identities: • 2G IMSI • 3G IMUI These must be used in the identity field in MM/GMM messages The criteria for which identity to use is the serving RAN? Should Inter-PLMN HO be considered? • The decision criteria to use IMSI or IMUI must be defined for ME even if the format is the same. • All IEs containing IMUI will need to be checked • Procedural description required. IMUI is not visible in 23.003 stage 2.	23.060 ? 24.008	T3		N1 part COMPLETE IMSI will apply to both 2G and 3G, no N1 action needed. (S2-99633)

14. New User Plane protocols, PDCP, BMC TSGR#6 recently agreed on the introduction of PDCP and BMC. • Services provided to the upper layers by PDCP! • Primitives between PDCP and NAS! Packet Data Convergence Protocol (PDCP) has in control plane point of view same kind of functionality in UMTS as SNDCP layer has in GPRS. PDCP has interface with SM layer. N1 action required: • editorial changes to clarify the usage of SNDCP for GSM and PDCP for UMTS. • Any impact because of secondary PDP context concept. BMC is under the control of RRC and no N1 action is required.	24.007 24.008	R2		N1 part COMPLETE (no impact)