3GPP TSG_CN
Plenary Meeting #9, Oahu, Hawaii
20th – 22nd September 2000.

Tdoc NP-000415

**3GPP TSG CN WG4, Meeting #3
Helsinki, Finland, 17-21 July 2000**

Tdoc N4-000550

WI / Topic: Bearer Independent Circuit-Switched Core Network

Source: 3GPP TSG CN WG4[1]

To: 3GPP TSG CN WG3, 3GPP TSG CN

**Title: LS on Bearer Independent Circuit-Switched Core Network
               Work Split**

During the N4 meeting in Helsinki, 17-21 July 2000, the 3GPP Project Plan for R00 v1.3 (attached in Tdoc N4-000469 for your information) was presented to N4.

In the course of the discussion of this document, N4 has identified areas in which the Project Plan diverts - according to the notes of the N4 chairman - from the agreements made in the last N plenary, 21-23 June 2000 in Düsseldorf.

N4 has gathered the additions and corrections to the Project Plan in Tdoc N4-000547 (attached for your information).

In the same meeting, a new WI on "Bearer Independent Circuit-Switched Core Network" was proposed (attached in Tdoc N4-000548 for your information). The work for this WI is split between N3 and N4 along the lines described in the additions and corrections to the Project Plan and in the spirit of the agreements reached within the joint N/S2#03 meeting and N#08 plenary meeting. N4 understands that N3 is responsible for the parameter values for the media gateway control protocol. N4 asks N3 for guidance on how these parameter values shall be documented and where these will be specified.

N4 asks N3 to review the proposed work split and to relay their comments and/or agreement to the additions and corrections to the Project Plan, as well as to the WI, back to N4. In addition, N plenary is requested to update the Project Plan accordingly.

N4 would appreciate a response at N3's earliest convenience. The next meetings of N4 are scheduled for 28 Aug – 01 Sep 2000 (Seattle, USA) and 13 – 17 Nov 2000 (Paris, France).

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3GPP TSG CN WG4#03   **Tdoc N4-000469**
Helsinki, Finland
17 - 21 July 2000

3GPP Project Plan for R00 v.1.3

Introduction

This document proposes the 3GPP **Work Plan for Release 2000**. It describes the complete set of *R00 work items* and classify them as *feature, building block* and *work task:* a *feature* is subdivided into *building blocks* and a *building block* is subdivided into *work tasks* (definitions are given bellow).

This tree structure is established to ease the monitoring of the 3GPP work progress for R00, and to make explicit the purpose of the work assigned to one WG in the global system.

The aim of this Work Plan is to lead in a consistent way the activities of the full 3GPP community for the Release 2000.

Background

Short explanations of the concepts used in this document are provided bellow (extracted from SP-000109).

Feature: New, or substantially enhanced functionality which represents added value to the existing system. A feature should normally embody an improved service to the customer and / or increased revenue generation potential to the supplier.

Building block: A sub-division of a feature, representing a set of technical functionality which would generally be expected to reside in a single system element, i.e. a single physical or logical entity or a single protocol. Building blocks may be "re-usable" - that is, a single building block may be common to two or more features.

Work task: A sub-division of a building block, representing a self-contained, well-scoped and well-scheduled item of work. A work task will almost certainly be the responsibility of a single Working Group. The output of a work task is the creation of one or more new Technical Specifications (or Reports) and / or Change Requests to existing TSs / TRs.

Work item: A generic term to refer to a given *feature, building block* or *work task*, i.e. all the individual elements of the table bellow should soon become work items (some work tasks may however be grouped within a single WI). A full description of the term *work item* can be found in the 3GPP Working Procedures, as detailed in the annex (the complete 3GPP Working Procedures can be found at http://www.3gpp.org/About_3GPP/3gpp_wp.zip).

Status of review by the 3GPP Groups

This version encompasses the comments made by the Working Groups and the TSGs. All the 3GPP WGs have now reviewed the proposal.

The Project Plan is however a living document, so comments can be raised during all its life time. Comments should be made according to the rules specified in the section "contacts for comments". **Any comment that does not follow this procedure will not be incorporated.**

Next steps

Approval of Work Items:
All the Work Items identified in this document have to be officially approved. Several Work Items can nevertheless be approved using a single work item coversheet (in particular, several work tasks can be approved together).

Transfer from MS Word to MS Project:
This MS Word version has limited capabilities in term of readability. For this reason, the content of this document will be soon transferred to MS Project 98. This software provides some useful tools, like filtering the information to present only the work items to be fulfilled by a given (set of) WGs.

A visualisation of the filtered information will always be provided in MS Word format.

Warning

This Project Plan is a tool elaborated for the purpose of helping the coordination between the 3GPP WGs and TSGs. It does not contain any "mandating element". The involvement and the agreement of the WGs and TSGs to this plan is reflected by their approval of WIs coversheets corresponding to the WIs shown here.

Contacts for comments

For sake of sharing the workload, S2 has established 12 Inter-Group Co-ordination (**IGC**s). Each IGC has the responsibility to monitor the work progress on a number of work items, and each work item is monitored by a single IGC. In case of inconsistencies, comments should be made to the responsible IGC's convenor. The e-mail addresses of all the IGC convenors are provided bellow.

IGC	*Convenor*	convenor's e-mail address
1. Bearer and Access Stratum	*François Courau*, Alcatel	francois.courau@alcatel.fr
2. QoS	*Oscar Lopez-Torres*, T-Mobil	Oscar.Lopez@t-mobil.de
3. CC and roaming	*Alexander Milinski*, Siemens	Alexander.Milinski@icn.siemens.de
4. Codecs	*Ian Doig*, Motorola	IANDOIG1@email.mot.com
5. Messaging	*Martin Guntermann*, Mannesmann Mobilfunk	Martin.guntermann@d2mannesmann.de
6. Terminal local features	*Paul Voskar*, Nokia	Paul.voskar@nokia.com
7. Service platforms	*Christophe Gourraud*, Ericsson	christophe.gourraud@lmc.ericsson.se
8. Security	*Paul Dwyer*, Vodafone-Airtouch	paul.dwyer@vf.vodafone.co.uk
9. Billing, charging and management	*Yukio Hiramatsu*, NTT	hiramatu@MAGNET.NETLAB.NTT.CO.JP
10. Testing	*by interim: Ian Doig*, Motorola	IANDOIG1@email.mot.com
11. Location related issues	*Jan Kall*, Nokia	jan.kall@nokia.com
12. Overall Co-ordination and general issues	*Alain Sultan*, ETSI/MCC	alain.sultan@etsi.fr

Features, Building Blocks and Work Tasks of R00

Inter Group Co-ordination	*Feature*	*Building block*	*WG: work task* expected completion date
Bearer and Access Stratum	**Evolution of transport**	**Evolution of the Transport in the UTRAN[1]**	**R3:** Introduction of an option allowing an IP transport in the UTRAN **R3:** new RAB support (this belongs also to the RAN Improvements) **R3:** QoS optimisation for AAL2 connections
		Evolution of the Transport in the CN[2] *** WI formulation assigned to N4**	**?:** User/signalling data transport on TCP/RTP/UDP/IP based bearers (Nb/Nc)
			?: User/signalling data transport on ATM/AAL2 bearers (Nb/Nc)
			N4: Separation of call and bearer control
			N4: IP Transport of CN protocols (e.g., CAP, MAP)
			S2: Feasibility study for transport and control separation in the PS CN domain (WIC in SP-000293, rap. Juan-Antonio Ibanez, Ericsson Deutschland, Juan-Antonio.Ibanez@eed.ericsson.se)
		Evolution of Bearers in the CN[3] *** (Combine with above for WI)**	**N4:** Evolution of the bearers inside the PLMN
			N3: Evolution of the bearers at the inter-working point with other types of networks
	Radio Interface Improvement	**Hybrid ARQ (Feasibility study)**	**R2; R3**
		Improved usage of CCTrCH (Feasibility study)	**R2; R3**
		High Speed DL packet Access 5feasibility study)	**R2; R3**
		Terminal Power Saving (Feasibility study)	**R2; R3**
		USTS (Feasibility Study) (R4), WIC in RP-000291, Rap. Y. Lak Kin	**R2; R3**

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[1] These building blocks are considered as independent.
[2] These building blocks are considered as independent.
[3] Transport and bearers are distinguished in this proposal because it is assumed that Bearer can be provided using different transport techniques as they shall fit the requirement in terms of QoS.

	Low Chip Rate TDD[4] (R1) WIC in RP-000191, Rap. G. Yang, CWTS	Low Chip Rate TDD Physical Layer (R1) WIC in RP-000311, Rap. G. Yang, CWTS	**R1; R2; R3; R4**
		Low Chip Rate TDD Layers 2 and 3 (R1) WIC in RP-000312, Rap. Y. Liu, CWTS	
		Low Chip Rate TDD RF Radio Transmission/Reception, System Performance Requirements and conformance testing (R1) WIC in RP-000313, Rap. D. Zhang, CWTS	
		Low Chip Rate TDD Smart antenna (R1) WIC in RP-000314, Rap. G. Yang, CWTS	
		Low Chip Rate TDD UE Radio access capability (R1) WIC in RP-000315, Rap. Y. Liu, CWTS	
		Low Chip Rate TDD UTRAN architecture aspects (R1) WIC in RP-000316, Rap. Y. Liu, CWTS	
	RAN improvement[5]	**RRM Support over Iub and Iur**	**R3:** RRM optimisation (5 issues) WIC in RP-000310, Rap. P. Willars, Ericsson
		Node B synchronisation for TDD[6]	**R3:** Node B synchronisation for TDD
		Improvement of Inter-Frequency and Intersystem measurement (Feasibility study)	**R2; R3**
		BTS classification	**R2; R4:** At least, two aspects have to be covered: FDD BTS and TTD BTS
QoS	**Real Time QoS for packet services including VoIP**	**HOs: maintenance of real-time QoS while moving between cells in the PLMN including**	**S2:** End-to-End multimedia QoS negotiation, *Sept* **N1:** End-to-End multimedia QoS negotiation *Nov*

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[4] BB and WT associated to this feature are still under discussion
[5] These building blocks shall be considered as independent from any features and followed as such.
[6] This Building block belongs also to the Radio Interface Improvements for R2 activities

		inter-SGSN change and SRNS relocation or possibly other mechanisms (S2 writes WI Desc)	New or enhanced packet handling procedures to maintain real-time and non real-time services throughout packet session: **S2:** on QoS architecture and GPRS improvements, *July* **RAN3** handover for real time services in PS domain, *August* **N1:** on GPRS GMM and SM aspects, *July* **N4:** on GTP aspects, *July* **N1:** changes to QoS re-negotiation procedure, *August*
July		**End-to-end/UMTS reservation and (re-) negotiation of QoS parameters Policy Framework implications (S2 writes WI Desc)**	**S2, N3:** Study external QoS negotiation mechanisms, and as a result propose QoS negotiation and reservation mechanisms to be used in UMTS, (work started on 9 May 00), proposed WI (S2-001188 – cc domain): *July*
			S2, N3: Define interactions between external QoS negotiation and reservation mechanisms and UMTS QoS negotiation and reservation mechanisms Policy Framework impacts on the architecture (work started on 9 May 00), *August*
			N1: Possible new code points in QoS IE from external networks, *Oct* **N1:** inclusion of UMTS QoS Architecture (23.107) new point codes, *August*
			S5, N3, S2, S1: Consider issues related to charging for end-to-end QoS, *Sept.*
			S2: Study on how to detect transport of user data on IP-based signalling *Nov.*
			S2, N1, N3, T2: Mapping between UMTS QoS attributes and the attributes used by external QoS mechanisms, *Nov.*
			SMG2, SMG7: GERAN QoS Aspects, *Dec.*?
			S2, N1, N3: QoS for Signalling Bearer in and out of PLMN *July*
	Non-real time QoS Enhancements for packet services	**Mapping of overall end to end QoS in each new interface (S2 writes WI Desc)**	**N4:** Impacts on QoS profile anticipated, *July*
			N3: For Packet as per real time QoS, see "Real Time QoS for packet services" above.
		Evolution of maximum SDU size (S2 writes WI Desc)	**N4:** Impacts on CN protocols (e.g., GTP, MAP) anticipated, *Sept.*
August			**N3:** impact on interworking over GTP e.g. PPP, *August*

		End-to-end (re-)negotiation of QoS parameters (S2 writes WI Desc)	See "Real Time QoS for packet services" above.
		HOs: maintenance of non real-time QoS while moving between cells in the PLMN including inter-SGSN change and SRNS relocation or possibly other mechanisms (S2 writes WI Desc)	New or enhanced packet handling procedures to support real-time and non real-time services, See "Real Time QoS for packet services" above.
	QoS for circuit switched services	HOs: support of inter-MSC change and SRNS relocation (S2 writes WI Desc)	**SMG2, SMG7:** GERAN QoS Aspects, *Dec.*
Call Control and Roaming *Call Control and Roaming*	**Provisioning of IP-based multimedia services** (S1) WIC SP-000216 Rap, Mark Cataldo, Motorola	**Call control and roaming to support IP-based multimedia services in UMTS** (S2) WIC in SP-000289, Rap: Liz Daniel, Lucent	**Definition of service requirements.** *17.-21.7., S1#9* Issues include e.g.: • Roaming requirements • Requirements on supplementary services • Interworking requirements**TR22.976**
			Architecture and Stage 2 *80% complete in S2#14, i.e. in TSGS #9* **S2, N1, N3, N4:** Stage 2 description Issues include e.g.: • Mobile IP • RAB selection principles • Optimized VoIP bearer mechanisms • SIP multimedia protocol **TR23.821**
			N4: Study on impacts on HSS July
			N1, S2: SIP Call Control protocol over Gm reference point (CSCF – UE) *Dec.* WI to be defined, one WI proposal should cover all N1 work tasks. Richard Brook , Lucent
			N1: Verify that functionality exists in SIP Call Control to support the set of SS defined in 22.976, Gm IF *Dec.* *Note: S1 to judge whether major deviations from current behaviour are acceptable*
			N4: SIP Call Control SS and relationship to Mg, Mw and Cx including verification of the functionality to support the set of SS defined in 22.976 *Dec.*

			N1, T2: Multimedia Terminal capabilities, e.g. • CC version, • MS CM, etc. *Dec.*
			N1, N4: Multimedia Network capabilities, e.g. CC version, Protocol version, etc. *Dec.*
			N2, N4, S2: CSCF – HSS (Cx) applications and services (SCP) *Dec.*
			S2, N4 (HSS), N3 (interworking): Addressing, Identities *June*
			N1, N3,(S1 for requirements): Interworking with other multimedia protocols *Dec.* • Legacy systems (e.g., H.323, 3GH.324/M, H.320, H.248) • PSTN • GSM PLMN • (Should be extensible to other protocols)
	Emergency call enhancements **N1 to define WI (Rouzbeh / Ericsson)**	**IP&PS based Emergency call enhancements** (N1) WIC in NP-000380	**S1:** creation of 22.976 on Service Requirements for IP-based emergency calls: *July*
			N1: SIP emergency calls and packet emergency calls in general (S1 requirements needed) *Dec.*
			S2: Stage 2 for emergency calls and packet emergency calls in general *80% stable: Sept.This is critical task – it does not leave too much time for stage 3 work on .*
			S1, N1, N4, T3: Distinction of emergency call types to different emergency services. *August*
			Someone (IETF, N1): Stage 3 for emergency calls and packet emergency calls in general. Dec
		CS based Emergency call enhancements (N1) WIC in NP-000379	**S1, N1, N4, T3:** Distinction of emergency call types to different emergency services in CS domain. *August*
			S1, N1: Emergency call recalling capability enhancement. *Dec.*

			Access Security for IP-multimedia services (S3), WIC in SP-000296	**S3:** • Requirements Capture, Aug. • Security Feature Specification, Sept • Definition of Security Architecture, Dec • Integration of Security Architecture, June 2001
			Lawful interception architecture (also BB of bearer independent circuit switched network architecture) **S3**: to define WI (Jun 00)	**S3:** • Requirements capture: S3#14 (Aug 00) • Feature specification: S3#15 (Sep 00) • Definition of architecture - CRs approved at TSG level: SA#10 (Dec 00)
			RAN improvements and evolution of the bearers on the Radio interface to enable efficient IP-based multimedia services in UMTS • **RAN:** for detailed planning cf. IGC Bearer and Access Stratum	<intentionally left blank>
			Non-real time QoS Enhancements for packet services • **S2:** for detailed planning cf. IGC QoS	<intentionally left blank>
			Real Time QoS for packet services including VoIP • **S2:** for detailed planning cf. IGC QoS	<intentionally left blank>
			Billing, charging and management aspects for IP-based multimedia services in UMTS • **S5:** for detailed planning cf. IGC Billing, charging and management S5 to define WI(s)	<intentionally left blank>
			Codec aspects for the provisioning of IP-based multimedia services in UMTS • **S4:** for detailed planning cf. IGC on Codecs S4 to define WI(s)	<intentionally left blank>
			Roaming support within and between IP Multi-media network and CS Domain networks	**S2, N4:**Stage 2 *80% stable: June* Covered by work item in SP-000150 TR23.821
				N3: Internetwork roaming aspects

			S1: Roaming requirements *July* Covered by work item proposed in S1-000290 TR22.976
		Support of VHE/OSA by R00 network entities and protocols of the IM subsystem (e.g. CSCF) • **N5 to define work item:** for detailed planning cf. <mark>IGC on Service Platform</mark>	<intentionally left blank>
		CAMEL control of VoIP • **N5 to define work item:** for detailed planning cf. <mark>IGC on Service Platform</mark>	<intentionally left blank>
	Enable bearer independent Circuit-switched network architecture • **WIC in SP-000288** • Rapporteur Alexander Milinski, Siemens	**Enable bearer-independent call control**	**S2:** Architecture and Stage 2 description on **23.821** *80% complete in S2#14, i.e. in TSGS #9*
			N3: Standardisation of protocols (user plane) over reference points between MGWs *Dec.*
			N4: Standardisation of protocols over reference points between MSC server and Gateway MSC server *Dec.*
			[additional work tasks possible as architecture evolves] *Dec.*
			N4: Bearer control between MSC server and MGW (protocol issues, stage 2) *Dec.*
			N3: Bearer control between MSC server and MGW (parameter value issues, stage 3) *Dec.*
			N3: Bearer control (control plane, e.g., Q.AAL2) between MGWs *Dec.*
		Lawful interception architecture (also BB of bearer independent circuit switched network architecture) **S3**: to define WI (Jun 00)	**S3:** • Requirements capture: S3#14 (Aug 00) • Feature specification: S3#15 (Sep 00) • Definition of architecture - CRs approved at TSG level: SA#10 (Dec 00)
		Bearer independence and codec control issues for detailed planning cf. <mark>IGC Codecs</mark>	<intentionally left blank>
	Circuit-switched multimedia services	**Circuit-switched multimedia swap and fallback**	**N1:** call control and signalling aspects *Dec.*
			N3: transport aspects *Dec.*

		• **Agreed WI NP-000051** Rapporteur: Juha Räsänen (juha.a.rasanen@nokia.com)	**N3:** inband signalling *Dec.*
			S1, S2: Review whether service/stage 1 or architecture/stage 2 aspects need to be aligned *Dec.*
	Facsimile completed	**Real Time Fax** postponed from R99 to R00, **SP-000169** completed (email CN chair, June 29, 2000)	**T2:** T erminal capabilities, AT commands *Dec.*
			N1: signalling aspects (e.g. ICM) *Dec.*
			N3: service provision *Dec.*
			S1, S2: Review whether service/stage 1 or architecture/stage 2 aspects need to be aligned *Dec.*
	Global Text telephony (S2) **WIC in SP-000290** • Rap. G. Hellström, Ericsson Radio Systems AB, email: gunnar.hellstrom@omnitor.se tel: +46 708 204 288	**Text Telephony**	**S1**: Text Feature Stage 1 description
			S2: Text Feature Stage 2 architecture
		Text Feature Activation and transport	**S2**: SIP activation and transport
			S2: 3G-324 Activation and transport
			S2: Data channel activation and transport
			S4: Voice channel activation and transport
			S2: Selection of transport method
		Text Feature Interworking	**N3**: PSTN Interworking *Dec.*
			N3: IP Interworking *Dec.*
			N3: PLMN Interworking *Dec.*
		Text Feature Terminal Aspects	**T2**:Connection of PSTN textphones to MS
			T2: Terminal interfaces and functions
			T2: MMS Commonalities
			T3: USIM aspects
	Bearer Modification without pre-notification (S1) WIC in SP-000216, Rap. Wayne Ashwell, BT	**Service Modification without pre-notification between** Objectives include modification not using BICC (between Speech and Fax, Speech and Modem, and Speech and Multimedia using ISUP) and using BICC. **WIC in NP 000224 (N3), Rap.** Masahiko Yahagi (m_yahagi@mcs.abk.nec.co.jp)	**N1:** in call modify procedure *Dec.*
			N3: interworking function, TAF *Dec.* Preliminary as no official work item exists on the issue
			N4: Out of band Transcoder Control *Dec.* Preliminary as no official work item exists on the issue
			T2: AT commands *Dec.* Preliminary as no official work item exists on the issue
		Bearer Modification because of radio conditions S1 requested to further elaborate requirements	**S2:** tbd

	Push Services	Network requested PDP context activation with User-ID (S2) WIC in SP-000291, Rap. Yoshinori Kitada, NTT Comware	S2: feasibility study
Codecs	**Wideband Telephony Service**	**AMR – Wideband specification**	**S4**,TD SP-000024: TR 26.901 v2.0.0 AMR Wideband Speech Codec Feasibility Study Report (Release 2000).
			S4,TD SP-000027: AMR Wideband Permanent project document WB-3: Performance Requirements, completed *TSG#7*
			S4,TD SP-000028: AMR Wideband Permanent project document WB-4: Design Constraints, completed *TSG#7*
			S4,WB AMR speech Codec Qualification *completed*
			S4,WB AMR speech Codec Selection Tests *June to Oct. 5 candidates*
			S4,WB AMR speech Codec Selection oct 23 - oct 29.
			S4,Wide Band Speech Telephony Terminal Acoustic Characteristics *Dec.*
			T1, to review Wide Band Speech Telephony Terminal Acoustic Characteristics *Nov.*
			S4,Wide Band Speech Telephony Terminal Acoustic Test Specification *Dec.*
			T1, to review Wide Band Speech Telephony Terminal Acoustic Test Specification *Nov.*
			S4,Wideband Speech Codec General Description *Dec.* **S4:** Wideband Speech Codec (ANSI C-Code, Test Sequences, Speech Transcoding Functions, Error Concealment of lost frames, Source Controlled Bit-Rate Operation, Voice Activity Detector, Frame Structure), *Dec.* Wideband Speech Codec Performances Characterization *Feb 2001* Codec lists *Dec.*
			T1 Conformance tests (CRs to 34 series) *IGC Testing June 2001*
		WB AMR Implementation in UTRAN	**RAN WG** Tasks (CRs) *Dec.*

	WB AMR Implementation in CN	**CN WG** Tasks (CRs) *Dec.* **N1:** • Indication of supported codecs by the MS • Bearer Capability negotiation • Codec indication to MS
	WB Telephony Requirements	**S1** requirements (CRs) *Dec.*
	QoS for speech and multimedia codec IGC QoS. Common Building Block. See IGC QoS documentation.	
	AMR Implementation in GERAN	**GERAN WGs (SMG2 WGs)**
Packet switched mobile streaming application	Transparent end-to-end packet switched mobile streaming application **(S4)** **WIC in SP-000345, Rap: ?, Ericsson**	
	Non Transparent end-to-end packet switched mobile streaming application (S2?) **No WIC so far**	
Transcoder-Free Operation (TrFO) SP-000094	**OoBTC**[7]	**N1:** Adding new codecs and the signalling mechanism to negotiate the activation of the fcodecs should be studied for . Codec Negotiation between UE and MSC. Signalling for See NP-000085 24.008, 23.009, 23.108 (29.002) Assumption for **R99**: As there is only one Codec, AMR, this does not need to be signalled.

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[7] The Out of Band Transcoder is deleted from the TSG RAN Work Programme as the solution does not involve the UTRAN (i.e. it is not proposed to delete the Out of Band Transcoder function). TSG RAN will not work on this unless it is found to be necessary, at which time a Work Item will be established to deal with this.

		N4: Codec Negotiation inter MSC, Bearer establishment inter MSC. TS 23.153 **R99** part complete. capabilities moved to annex. See NP-000127 **Open issues:** Handling of Conference Calls; Handling of Multi Party Supplementary Services; Handling of Handover UMTS to GSM; Handling of Sending a tone or Announcement; Protocol between MSCs (i.e. Iu UP Framing versus I.366).
		S2
		R2: Bearer establishment between UE and RAN, TFC control by RRC
		R3: Bearer establishment between MSC and RNC as well as RNC and Node B, Notification of the Codec mode to RAN, Iu UP control procedure (rate control, initialization, time alignment)
	TrFO specification	**N1:**
		N4 N4: **decided to standardise TrFO for R00.**
		R3 R3: **User & Control Plane procedures related to the Codec Commands to UE**
		S3 Prevention of user fraud
		S4 26.103 Codec list, 3G equivalent of GSM 08.62
		WG ? Harmonization of TFO and TrFO may be required
Support of Transcoder in CN	**WI description and Tdoc S2-99352 Speech Transcoder: Location and Control at the UMTS Core Network Border**	
	Transcoder at Edge	The TrFO feature is linked (use of BICC, codec negotiation) with the "work item which is due to R00 (same use of BICC and of AAL2 switching).
Tandem Free aspects for 3G and between 2G and 3G systems	**Tandem Free AMR**	**S4 TFO AMR Specification (New speccification forseen,, replacing 08.62 for 3G) Dec 00**
	TFO AMR Implementation in UTRAN ?? Inband	**RAN WG** Tasks (CRs) *Dec.*

		TFO AMR Implementation in GERAN ?? Inband	**TSG GERAN**: the GERAN support Tandem Free Operation (TFO) services.
		TFO AMR Implementation in CN	**CN WG** Tasks (CRs) *Dec.*
	Transmission planning in 3G networks	**Equivalent Transmission Planning Aspects of the Services in UMTS (TS 03.50)**	**RWGs** Specifications/Reports
Messaging	**Multimedia Messaging** (T2), WIC in TP-000078, Rap. Gunnar Schmidt, Siemens	**Service Requirements**	**T2/S1**: Review of MMS Stage 1 **S1**: Integrated Media Streaming *May*
		Technical Realization	**T2/S2**: Define Reference Architecture Model **T2:** Fulfill open Requirements of MMS Stage 1 Release 99: e.g. minimum set of media formats, media format conversion, personalization of MMS. <mark>R99</mark> **T2/S2:** Fulfill new requirements of MMS Release 00 (streaming, ...) **T2:** Definition of MMS primitives in MMS Stage 2
	Advanced Cell Broadcast	**Service Requirements**	**S1:** Enhancements to release 99 CBS e.g. Charging requirements, Capacity Enhancements *May*
		CBC-RNC Protocol	**R3:** Refinements of TS 25.419
		Terminal aspects	**T2**
	IP Multicast	**Service Requirements**	
Terminal local features	**Alternatives to AT commands**	**TBD**	TBD
	AT commands	**Edge AT commands.**	**T2 :** New AT commands to be added to 27. 007
		MMS AT commands.	**T2 :** New AT commands to be added to 27. 007
		Other AT commands	**T2 :** New AT commands to be added to 27. 007
	Wide Area Data Synchronisation	**Continues evolution of Synchronisation protocol**	**T2:** additions to 27.103
		v**Objects and Other Constructs for Use in Data Synchronisation** (T2), WIC in TP-000079, Rap. Rob Lockhart, Motorola	**T2**: additions to 27.103 Dec 2000
	UE Multiplexer	**Multiplexing protocol (simultaneous sessions over UE).**	**T2:** Addition to 27. 010.
	UICC/ME interface	**UICC/ME Performance Enhancements**	**T3:** Feasibility study on speed enhancements on existing UICC interface and alternatives . Dec 2000
	Terminal Local Model (T2), WIC in TP-000080, Rap. Carl Gustavsson, Ericsson		**T2:** new TS 23.227 Dec 2000
	UICC API	**Test specification for UICC Java API**	**T3:** UICC interface. Dec 2000
		Java API transfer to 3GPP	**T3:** Java API specification Dec 2000
	UICC/USIM database	**TBD**	**T3**: (approved at TSG #05 in TP-99210)

	Common PCN Handset Specification (CPHS) (T3), WIC in TP-000116, Rap. ?, One2One		
	(U)SIM toolkit	**Enhancements to (U)SIM toolkit secure messaging (03.48)** (T3), WIC in TP-000116, Rap. Daniel Ericson, Across Wireless	
		Protocol Standardisation of a SIM Toolkit Interpreter (T3), WIC in TP-000116, Rap. Michael Meyer, G & D	
	SIM/USIM Interworking (T3), WIC in TP-000116, Rap. Günter Maringer , T-Mobil		
Service platforms	**VHE** (S1) WIC in SP-000216, Rap. Jumoke Ogunbekun, Fujitsu Europe	**Evolution of VHE concepts**	**S1, S2,T2:** Introduction of VHE within the IP Multi Media Domain
			S1, S2,T2: Evolution of VHE within the Packet Switched and Circuit-Switched Domain
		Service Continuity	**S1:** Definition and requirements on VHE within a single domain and between domains (CS, PS and IM)
			S2: VHE architecture within a single domain
			S2: VHE interworking between domains
		Personal Service Environment (PSE), user profiles and user profile management	**S2:** PSE architecture (e.g. HSS) and interfaces
			S2, N4: User Profiles definition
		Interaction between VHE Toolkits	**S1, S2:** Develop definition and architectural consequences for the VHE toolkit interactions
		VHE management aspects	**S1, S2, S5:** Definition and Realisation of Service Deployment, etc.
		VHE security (S3)	**S1, S2, S3:** User Requirements. Principles and architecture definition for the different VHE toolboxes (e.g. MeXE, SAT, CAMEL and OSA)
			S3, N1, N2, N3, N4: (possibly) changes required from supporting platforms, e.g. gsmSCF, HLR
	Open Service Architecture (S1) WIC in SP-000216, Rap. Jumoke Ogunbekun, Fujitsu Europe	**Evolution of OSA concepts**	**S1, S2:** Introduction of OSA in the IP Multi Media Subsystem
			S1, S2: Evolution of OSA in the Circuit Switched and Packet Switched Domains
		Integration of OSA within IM domain	**S1:** Requirements on OSA for multimedia capabilities and features
			S2, N1, N5: Interaction between SIP call control and OSA

				S2, N2, N4, N5: Interaction between HSS and gsmSCF features and OSA
				S2, N5: Interaction between Multi Media network resources and OSA
			User Profile Management, User Profile Access	**N5:** SCFs for user profile access/management by OSA applications
			OSA security (S3), WIC in SP-000302, Rap. Colin Blanchard, BT, colin.blanchard@bt.com	**S2:** Technical requirements for OSA security, implementing the VHE toolkit security requirements
				S3: • Presentation to S3 of trust and security management framework service capability feature: S3#14, Aug • Presentation to S3 of threats and countermeasure analysis: S3#15, Sep • Decision if implementation is to be standardised and how much re-use can be made of 3G AKA as "prescribed method", network certificates and security associations: S3#16, Nov • Definition of architecture • Complete CRs: S3#16, Nov CRs approved at TSG level: SA#10, Dec
				N5: security related SCF(s) definition
				S3, N2, N4, N5: (possibly) changes required from supporting platforms, e.g. gsmSCF, HLR
			New Network Service Capability Features (N-SCFs) and evolutions of existing ones, e.g. • **Call Control SCF (Call Party Handling, SIP)** • **Positioning SCF (see BB Location Services/LCS Application Interfaces)** • **Terminal Capabilities SCF** • **Charging SCF** **E-Commerce SCF**	**S1:** User requirements for the OSA N-SCFs
				S2: Technical requirements for the OSA N-SCFs
				S2: Specify the selection of SCFs within the network architecture (new and evolved exiting ones)
				N5: OSA APIs
			New internal OSA APIs and evolution of existing ones	**S1:** User Requirements for the internal OSA APIs
				S2: Technical Requirements for the internal OSA APIs
				N5: OSA APIs
			Enhancement of the Framework Service Capability Feature (Framework SCF)	**S1:** User requirements for the OSA Framework SCFs
				S2: Technical requirements for the OSA Framework SCFs
				N5: OSA APIs

		Harmonisation/co-ordination with non UMTS related initiatives (e.g. SPAN3, 3GPP2, Parlay group)	**N5:** Network Access Technology independence OSA API supporting VHE requirement on service continuity
	CAMEL phase 4 **SA1 to define WI** **New feature to be added for CAMEL phase 4**	**Existing CAMEL procedures shall be enhanced for the manipulation of media streams, where appropriate, typically for VoIP**	**N2, N4**: unnamed WT
		CSE Initiated call setup including user interaction	**N2, N4**: unnamed WT
		Flexible approach to provide User Interactions during a call	**N2, N4**: unnamed WT
		Interactions with Optimal Routing	**N2, N4**: unnamed WT
		CSE control of follow-on calls	**N2, N4**: unnamed WT
		CSE control over MT SMS	**N2, N4**: unnamed WT
	MExE (T2), WIC in TP-000117	**3rd MExE classmark**	**T2:** Additional features for MExE R2000
		MExE Security (S3), WIC in SP-000303, Rap. Colin Blanchard, BT, colin.blanchard@bt.com	**T2:** Additional features for MExE R2000
			S3: MExE • Presentation to S3 of R00 MExE: S3#14, Aug • Email discussion on threats and countermeasures, Aug • Threats and countermeasures analysis: MExE Aug • Presentation to S3 of threats and countermeasures analysis: S3#15, Sept • Feature specification: S3#16, Nov • Definition of architecture CRs approved at TSG level, Apr 2001
		Support of the Terminal parts of the VHE /User Profile	**T2** : Enhancements to MExE R99
		AT command support	**T2:** Feasibility Study and possible support
		Secure download mechanism and capabilities to support SDR concepts	**T2** : Feasibility study and possible support
		Support of MP3/MPEG4 content	**T2:** Feasibility study and possible support
		Support of SAT/OSA/CAMEL interaction to provide advance services	**T2:** Feasibility study and possible support

Security	**Protection for user plane data,** (S3) WIC in SP-000298, Rap. Stuart Ward, Orange, stuart.ward@orange.co.uk	**User plane integrity protection in access network (S3)**	**S3,** Requirements capture: S3#14, Aug • Security feature specification: S3#15, Sep • Feasibility study, Jan 01 • Definition of security architecture • CRs approved at TSG level, Mar 01 • Integration of security architecture • Concept presented to CN, RAN, T, GERAN, Apr 01 • First draft CRs, Jul 01 • Complete CRs with S3 review, Oct 01 CRs approved at TSG level, Dec 01
			S2, R2, R3, N1, SMG2 WPA:
		User plane protection in core network (e.g., provided by IPsec) (S3) (also BB of core network security) **S3**: to define WI (Jun 00)	**S3:** • Specification of protocol stacks for core network interfaces: CN, Aug • Requirements capture, S3#14, Aug • Security feature specification, S3#15 Sep • Definition of security architecture • CRs approved at TSG level, Mar 01 • Integration of security architecture • Concept presented to CN, RAN, T, GERAN, Feb 01 CRs approved at TSG level, Jun 01
			N4:
		Network based end-to-end security **S3** to defined WI (Jun 00)	**S2, S3,** Requirements capture, S3#14 Aug • Security feature specification, S3#16, Nov • Feasibility study, S3, Jan 01 • Definition of security architecture • CRs approved at TSG level: SA (Mar 01) • Integration of security architecture • Concept presented to CN, RAN, T, GERAN, Apr 01 • Complete CRs with S3 review, Oct 01 • CRs approved at TSG level, Dec 01 **S2, R2, R3,N1, N4, SMG 2 WPA**

	Core network security (S3)
	WIC in SP-000299,
	Rap. Robert Lubarsky, T-Mobil,
	Robert.Lubarsky@T-Mobil.de
		Control plane protection in core network (e.g., GTP, CAP, MAP/IP, provided by IPsec) (S3, N4)	**S3:**
			
			• Specification of protocol stacks for core network interfaces, CN Aug
			• Requirements capture, S3#14, Aug
			• Definition of GTP signalling security architecture
			  • Complete CRs, S3#15 Sep
			• Integration of GTP signalling security architecture
			  • Complete CRs with S3 review, N4#5, Nov
			  • CRs approved at TSG level (Dec 00)
			• Security feature specification, S3#15, Sep
			• Definition of security architecture
			• CRs approved at TSG level, Mar
			• Integration of security architecture
			• Concept presented to CN, RAN, T, GERAN, Feb 01
			• Complete CRs with S3 review
			CRs approved at TSG level Jun 01

			S2, N4:

		User plane protection in core network (e.g., provided by IPsec) (S3, N4) (also BB of user plane protection)	**S3:**
			
			• Specification of protocol stacks for core network interfaces, CN Aug
			• Requirements capture, S3#14, Aug
			• Definition of GTP signalling security architecture
			  • Complete CRs, S3#15 Sep
			• Integration of GTP signalling security architecture
			  • Complete CRs with S3 review, N4#5, Nov
			  • CRs approved at TSG level (Dec 00)
			• Security feature specification, S3#15, Sep
			• Definition of security architecture
			• CRs approved at TSG level, Mar
			• Integration of security architecture
			• Concept presented to CN, RAN, T, GERAN, Feb 01
			• Complete CRs with S3 review
			CRs approved at TSG level Jun 01

				N4:
			MAP application layer security, S3	**S3:** • Integration of security architecture • Complete CRs, N4 , Jun • CRs approved at TSG level, Jun • Definition of security architecture CRs approved at TSG level Sep
				N4:

		Key management for core network security (S3), WIC in SP-000301, Rap. Peter Howard, Vodafone Peter.Howard@vf.vodafone.co.uk	**S3:** • Contributions solicited to determine if MAP based key management is to be specified: CN/S3 ad hoc, Jun • Decide whether MAP based solution will be specified: S3#14, Aug • Decide on dates for an IP/IKE based solution: S3#14, Aug • Integration of security architecture for MAP based solution (if S3 decide on this solution) CRs approved at TSG level, Jun 01
			S2, N4;
	Evolution of GSM CS algorithms (e.g. A5/3 development and deployment) (S3) WIC in SP-000306, (no rap nor sup. company!)		**S3, N4, N1, SMG 2 WPA**
			S3: • Requirements capture: S3#14, Aug • Security feature specification: S3#16, Nov • Feasibility study, Jan 01 • Definition of security architecture • CRs approved at TSG level, May 01 • Integration of security architecture • Concept presented to S2 and CN, Feb 01 • Complete CRs with S3 review, Apr 01 • CRs approved at TSG level, May 01

	Evolution of GSM PS algorithms (e.g. GEA 2 deployment) (S3) WIC in SP-000307, (no rap nor sup. company!)		**S3** • Decision to createCRs making GEAx support optional also for R97 to preserve commonality between R97 and R98 and to allow for early roll-out of GEA2 in R97 terminals. Companies to check that no backward compatibility issues exist: CN/S3 ad hoc, Jun • Final decision on whether GEAx support is optional also for R97: CN#8, Jun • Definition of security architecture • CRs approved at TSG/SMG level, Jun • Integration of security architecture • Concept presented to S2 and CN, Aug • Complete CRs with S3 review, Sep • CRs approved at TSG level, Sep
			N4:
			N1: • GEA capability indication in MS CM
	GERAN	**GERAN Security** (S3) WIC in SP-000308, rap. Bart Vinck, Siemens AG, Tel: +49-89-722 25644, e-mail: bart.vinck@icn.siemens.de	**S3:** • Requirements capture: S3#14, Aug • Security feature specification: S3#16, Nov • Feasibility study, Jan 01 • Definition of security architecture • CRs approved at TSG level, May 01 • Integration of security architecture • Concept presented to S2 and CN, Feb 01 • Complete CRs with S3 review, Apr 01 • CRs approved at TSG level, May 01 •
			SMG 2 WP A: • Presentation to S3 of system architecture, Aug
			SAGE: Production of new algorithm, completed Oct 2001
			S2, N1, N4,

	Visibility and Configurability of security (S3), WIC in SP-000305, Rap. Sébastien Nguyen Ngoc, France Telecom Sebastien.nguyenngoc@francetelecom.fr		**S3:** • Requirements capture, Aug • Definition of security architecture, CRs approved at TSG level, Dec
			T2, T3, N2, N4
	FIGS **S3**:	**FIGS**	**S2, N4, N4,**

			S3:
			Identification of milestones for extending FIGS to PS domain: S3#14 (Aug 00)
			Requirements capture: S3#15 (Sep 00)
			Security feature specification: S3#16 (Nov 00)
			Feasibility study (Jan 01)
			Definition of security architecture
			   - CRs approved at TSG level (Mar 01)
			Integration of security architecture
			   - Concept presented to S2 and CN (Apr 01)
			   - First draft CRs (Jul 01)
			   - Complete CRs with S3 review (Oct 01)
			CRs approved at TSG level (Dec 01)

			S3:
	General Security Enhancements (S3), WIC in SP-000310, rap. Peter Howard, Vodafone, Peter.Howard@vf.vodafone.co.uk	This work item is intended to cover miscellaneous security enhancements which are not covered by any other security work item. Examples of miscellaneous items include: - Feasibility of an authentication vector revocation mechanism - Feasibility of positive authentication result reporting - Feasibility of control of lifetime of SA - UE triggered authentication Retention of P-TMSI signature	
Billing, charging and management	**Definition of Architecture and Principles**		**S5:** Key Administration & Distribution. Impacts on 32.101, 32.102, 30.808 and on 2G/3G Interworking. **R3**: Co-ordination O&M messaging Specification.
	Performance Management		**S5:** XML. File Format Enhancements on Plug & Measure, Measurement Definitions, PM Monitoring. Impacts on 32.104
	Fault Management		**S5:** IRP Alarm Solution Set for CMIP and SNMP Test Management. Impacts on 32.111. Specify possible impact on Cell Broadcast Services, Location Services, ATM Maintenance.
	Configuration Management		**S5:** IRP Notification Solution Set for CMIP, SNMP. Configuration Management IRP IS and Network Resource Model. IRP CM Solution Set for CORBA, CMIP, WBEM, SNMP. Impacts on 32.106. R2000 Naming Convention Updates. CM support of LCS/CBS functions (Network Resource Model).
	Charging		**S5:** Charging solution to 30.802.
	Call Cell Trace		**S5:** Call trace solution to 32.108
	Security Management		**S5; S3:** Key Administration and Distribution for MAP
	[GSM LCS O&M Project]		**T1.P1:** Project Management
	Service Management (S5) WIC in SP-000223, Rap. Geoff Caryer		**S5** Service Management Framework, Business Model, Use cases ,initial case study on Subscription Management (Ordering, activation , modification, cessation)

Testing	(No Feature specifically devoted to testing has been identified so far)		
Location related issues	**Support of Localized Service Area (SoLSA) (S1)** **WIC in SP-000216,** **Rap. ?, Nokia**	**Basic concept of SoLSA (broadcast LSA ids, zone tariffing)**	Creation of Work Item for UTRAN-SoLSA (This was supported only by one company in the S1 April meeting)
			S1: Development of SoLSA service descriptions
			S1, RAN: LSA definition
			S1, RAN: LSA selection
			R2: LSA information broadcast
			R3: Iu signalling support for SoLSA
			R3: Possible Iur signalling support for SoLSA
			R3: Possible Iub signalling support for SoLSA
			S2, R2: Adapt GSM stage 2 SoLSA for UTRAN
			CN WGs : Adapt SoLSA core network CRs
			RAN WGs: SoLSA specifications for UTRAN
			T WGs: Adapt SoLSA UE and USIM specifications
			S1: Study the usage of geographical information for SoLSA
		Localized Service Area (LSA) indication	**S1:** LSA display in UE
		Preferential access (cell access priority for LSA users)	**SA, CN and RAN WGs:** Iu interface and MAP signalling
		Idle mode support (favouring LSA cells in idle mode)	**S2, RAN and T WGs :** Adapt GSM specifications for UTRAN and UE
		Active mode support (favouring LSA cells in active mode)	**SA, CN, RAN and T WGs:** Adapt GSM specifications for UMTS, UTRAN and UE:
		Exclusive access (private cells)	**S1:** To be studied if supported in UTRAN
		LSA only access (type cordless or WLL)	**S1:** To be studied if supported in UTRAN
		SoLSA interoperation aspects	**S2:** GERAN-SoLSA and UTRAN-SoLSA interoperation
	Location Services (S2) **WIC in SP-000292,** **Rap. Jan Kall, Nokia**	**DEfined Geographical Areas (DEGA),(Geographical Area description)**	**S1** Evaluate the Defined Geographical Areas service feature, including location of all UE in area, to be included in R00, corresponding Stage 1 description, *July*
			S2 Possible update of 23.032, Universal Geographic Area Description (GAD)**,** e.g. text based presentation of LCS information, *Sept.*
		LCS quality level request (QOL)	**S1** Evaluate if LCS quality level request needs enhancements in R00, corresponding Stage 1 description, *July*

			R2 Possible impact on UTRAN of LCS quality level request
		Event based and Periodic LCS	**S1** Evaluate Event based and Periodic LCS to be included in R00, corresponding Stage 1 description, *July*
			S2 and R2 Include Event based and Periodic LCS in Stage 2 specifications, *Sept*
			N4 Impact of R00 architecture e.g. on (MAP) signalling for LCS
			R2 Possible impact on UTRAN of Event based and revised Periodic LCS request, *Sept*
		LCS network management	**S5** (to be more detailed, e.g. to evaluate adapting GSM 12.71 for 3G)
		Security aspects of LCS (S3)	**S3** (to be more detailed) *Sept.* Evaluate possible impact of new LCS features on security Evaluate privacy options in call related LCS for specific Client, separate for MT and MO LR
		LCS support in the core network CS domain	**N4:** Impact of R00 architecture e.g. on MAP signalling for LCS
		LCS support in the core network PS domain	**N1:** Layer 3 LCS signalling UE (MS) -SGSN (UMTS PS and GSM-GPRS)
			S1 Evaluate to be included in R00 and describe: **-** External LCS client identity **-** Privacy options when PDP-context and when no PDP-context is established
			S2 LCS support in the PS Domain, (Stage 2) Sept
			S2 include adopted new LCS service features in PS CN domain, stage 2, Sept
			N4 : MAP signalling for LCS
		LCS support in the IM CN subsystem	**S1** Evaluate LCS service features in the IM subsystem, e.g. related to emergency calls, *July*
			S2 Call related LCS in IM CN subsystem (stage 2) *Sept*
			N4 signaling for LCS
		Iu interface support for LCS	**R3** Iu development to support new LCS service features *Sept/(Dec?).* - to be further defined

	[LCS support in UTRAN: cell coverage based, R99]	**R3 :** [Iur transport of cell co-ordinates - to be included in R99] *June*	
	Advanced LCS methods **- OTDOA-IPDL** **- assisted GPS** **Work Item: "Support of Location Services in UTRA FDD"**	**R2:** LCS signaling UE-SRNC (TDD&FDD)	
		R1: Location measurements FDD *Sept.*	
		R3: Iur and Iub support for LCS measurements +results FDD	
		R2, R3: Stage 3 specifications on assistance data	
	LCS interoperation aspects	**S2 and SMG2:** Co-ordinated development of GSM LCS Phase 2 and UMTS LCS	
		S2; SMG2; SMG12 : Common LCS System and CN stage 2 specification, combine 23.171 &03.71 add LCS in GPRS and PS domain *Sept.*	
		[Separate GERAN LCS stage 2 specification based on radio parts of 03.71, SMG2]	
		[Corresponding Stage 3 GSM specifications]	
	LCS application interfaces (LCS-OSA) (Related to service platforms)	**S1 :** (LCS-OSA) Service description *July*	
		S2: Corresponding LCS-OSA stage 2 specification, 23.171 *Sept.*	
		S1 and T2 Possible enhancements in MExE support for LCS?: **S1:** Impacts on 22.057 **T2:** Impacts on 23.057	
		S1 and N2: Possible enhancements in CAMEL Phase 4 for LCS?: **S1:** Impacts on 22.078 N2**:** Impacts on 23.078 &29.078	
		N5: Possible OSA support for LCS, imoacts on 29.198 &29.998	
	Exception procedures	**S2** Exception procedures in the Core Network, *Sept.*	
		CN WGs Exception procedures, corresponding Stage 3 specifications, *Dec.*	
		R2 exception procedures in UTRAN *Sept.*	
	Specify LCS UTRAN Stage 2 for R00 (S2)	**R2** Aligning LCS UTRAN Stage 2 with changes in LCS system stage 2, *Sept*	
	LCS in UTRA TDD	**R2** Radio Resource Management (for LCS TDD)	

			R1 Location measurements TDD *Sept.*
			R3 Iur, Iub support for LCS measurements +results TDD
		LMU handling	R2 Functional description of LMU handling, LMU-SRNC signaling stage 2 description,
			R1 LMU TDD measurements (if specified ?)
			R1 LMU FDD measurements (if specified ?)
			R3 LMU SRNC signaling details Iub and Iur
			R4 Testing LMU functionality
		Testing LCS functionality in Node B and UE	R4 Define test methods and test cases
			R4 Define LCS performance requirements for Node B and UE

TEI[8]	TEI Common WI for all TSGs needs to be approved.		Applicable to all WGs.
Overall co-ordination and general issues	There are no features, building blocks and work tasks from the overall co-ordination, rather: • Overall Co-ordination • Vocabulary		

Documents considered for v.1.3:

SP-000216	Work Item Descriptions for Release 2000	SA WG1
SP-000288	Revised WI: Enable bearer independent circuit-switched network architecture (previous version in SP-000106)	SA WG2
SP-000289	Revised WI: An architecture for Call control and roaming to support IP-based multimedia services in UMTS	SA WG2
SP-000290	Proposed WI: Global Text Telephony	SA WG2
SP-000291	Proposed WI: A feasibility study of an architecture for network requested PDP context activation with User-ID	SA WG2
SP-000292	Proposed WI: Support of Location Services in UMTS, System and Core Network aspects	SA WG2
SP-000293	Proposed WI: Transport and control separation in the PS CN domain	SA WG2

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[8] To be used carefully!

SP-000296	SA WG3 WI Description: Access security for IP multimedia services	SA WG3
SP-000297	SA WG3 WI Description: Network based end-to-end security	SA WG3
SP-000298	SA WG3 WI Description: User plane security	SA WG3
SP-000299	SA WG3 WI Description: MAP application layer protection	SA WG3
SP-000300	SA WG3 WI Description: Core network security	SA WG3
SP-000301	SA WG3 WI Description: Key management for core network security	SA WG3
SP-000302	SA WG3 WI Description: OSA security	SA WG3
SP-000303	SA WG3 WI Description: MExE security	SA WG3
SP-000304	SA WG3 WI Description: FIGs	SA WG3
SP-000305	SA WG3 WI Description: Visibility and configurability of security	SA WG3
SP-000306	SA WG3 WI Description: Evolution of CS algorithms (A5/3 development and deployment)	SA WG3
SP-000307	SA WG3 WI Description: Evolution of PS algorithms (GEA2 deployment)	SA WG3
SP-000308	SA WG3 WI Description: GERAN security	SA WG3
SP-000309	SA WG3 WI Description: Lawful interception architecture	SA WG3
SP-000310	SA WG3 WI Description: General security enhancements	SA WG3
SP-000265	New WI Proposal on Packet Switched Mobile Streaming Application	SA WG4
SP-000223	Service-Level Management - New R00 work item proposal under SA5's responsibility	SA WG5
SP-000326	CN Status Summary Presentation	TSG CN Chair
SP-000340	Work Item sheets - situation at TSG-RAN #8	TSG RAN
SP-000341	Study Item sheets - situation at TSG-RAN #8	TSG RAN
SP-000320	Draft report of RAN Meeting #8 (SECTION 6)	TSG RAN Secretary
SP-000347	Release 00 New WI approved at TSG T#8	TSG T
S2-001196allBB	Jan Kall update of v.1.3 draft 01	Jan Kall

3GPP TSG CN WG4#03 **Tdoc N4-000547**
Helsinki, Finland (revised N4-000508)
17 - 21 July 2000

Modifications to 3GPP Project Plan for R00 v.1.3

Features, Building Blocks and Work Tasks of R00

Inter Group Co-ordination	Feature	Building block	WG: work task expected completion date
Bearer and Access Stratum	**Evolution of transport**	**Evolution of the Transport in the UTRAN[1]**	**R3:** Introduction of an option allowing an IP transport in the UTRAN **R3:** new RAB support (this belongs also to the RAN Improvements) **R3:** QoS optimisation for AAL2 connections
		Evolution of the Transport in the CN[2] *** WI formulation assigned to N4**	**?:** User/signalling data transport on TCP/RTP/UDP/IP based bearers (Nb/Nc)
			?:User/signalling data transport on ATM/AAL2 bearers (Nb/Nc)
			~~**N4:** Separation of call and bearer control~~
			N4: IP Transport of CN protocols (e.g., CAP, MAP) *March 2001*
			S2, N4: Feasibility study for transport and control separation in the PS CN domain (WIC in SP-000293, rap. Juan-Antonio Ibanez, Ericsson Deutschland, Juan-Antonio.Ibanez@eed.ericsson.se) *March 2001*
		Evolution of Bearers in the CN[3] *** (Combine with above for WI)**	~~**N4:**Evolution of the bearers inside the PLMN~~
			N3: Evolution of the bearers at the inter-working point with other types of networks

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[1] These building blocks are considered as independent.
[2] These building blocks are considered as independent.
[3] Transport and bearers are distinguished in this proposal because it is assumed that Bearer can be provided using different transport techniques as they shall fit the requirement in terms of QoS.

Inter Group Co-ordination	Feature	Building block	WG: work task expected completion date
QoS	**Real Time QoS for packet services including VoIP**	**HOs: maintenance of real-time QoS while moving between cells in the PLMN including inter-SGSN change and SRNS relocation or possibly other mechanisms** **(S2 writes WI Desc)**	**S2:** End-to-End multimedia QoS negotiation, *Sept* **N1:** End-to-End multimedia QoS negotiation *Nov*
			New or enhanced packet handling procedures to maintain real-time and non real-time services throughout packet session: **S2:** on QoS architecture and GPRS improvements, *July* **RAN3** handover for real time services in PS domain, *August* **N1:** on GPRS GMM and SM aspects, *July* **N4:** on GTP aspects, ~~*July*~~*March 2001* **N1:** changes to QoS re-negotiation procedure, *August*
	Non-real time QoS Enhancements for packet services	**Mapping of overall end to end QoS in each new interface** **(S2 writes WI Desc)**	**N4:** Impacts on QoS profile anticipated, ~~*July*~~*March 2001*
			N3: For Packet as per real time QoS, see "Real Time QoS for packet services" above.
		Evolution of maximum SDU size **(S2 writes WI Desc)**	**N4:** Impacts on CN protocols (e.g., GTP, MAP) anticipated, ~~*Sept*~~*March 2001*.
			N3: impact on interworking over GTP e.g. PPP, *August*

Inter Group Co-ordination	Feature	Building block	WG: work task expected completion date
Call Control and Roaming	**Provisioning of IP-based multimedia services** (S1) WIC SP-000216 Rap, Mark Cataldo, Motorola	**Call control and roaming to support IP-based multimedia services in UMTS** (S2) WIC in SP-000289, Rap: Liz Daniel, Lucent	**Definition of service requirements.** *17.-21.7., S1#9* Issues include e.g.: • Roaming requirements • Requirements on supplementary services • Interworking requirements**TR22.976**
			Architecture and Stage 2 *80% complete in S2#14, i.e. in TSGS #9* **S2, N1, N3, N4:** Stage 2 description Issues include e.g.: • Mobile IP • RAB selection principles • Optimized VoIP bearer mechanisms • SIP multimedia protocol **TR23.821**
			N4: Study on impacts on HSS ~~July~~March 2001
			N1, S2: SIP Call Control protocol over Gm reference point (CSCF – UE) *Dec.* WI to be defined, one WI proposal should cover all N1 work tasks. Richard Brook , Lucent
			N1: Verify that functionality exists in SIP Call Control to support the set of SS defined in 22.976, Gm IF *Dec.* *Note: S1 to judge whether major deviations from current behaviour are acceptable*
			N4: SIP Call Control SS and relationship to Mg, Mw and Cx including verification of the functionality to support the set of SS defined in 22.976 ~~Dee~~March 2001.
			N1, T2: Multimedia Terminal capabilities, e.g. • CC version, • MS CM, etc. *Dec.*
			N1, N4: Multimedia Network capabilities, e.g. CC version, Protocol version, etc. ~~Dee~~March 2001.
			N2, N4, S2: CSCF – HSS (Cx) applications and services (SCP) ~~Dee~~March 2001.
			S2, N4 (HSS), N3 (interworking): Addressing, Identities ~~June~~March 2001

Inter Group Co-ordination	Feature	Building block	WG: work task expected completion date
			N1, N3,(S1 for requirements): Interworking with other multimedia protocols *Dec.* • Legacy systems (e.g., H.323, 3GH.324/M, H.320, H.248) • PSTN • GSM PLMN • (Should be extensible to other protocols)
	Emergency call enhancements **N1 to define WI (Rouzbeh / Ericsson)**	**IP&PS based Emergency call enhancements (N1)** WIC in NP-000380	**S1:** creation of 22.976 on Service Requirements for IP-based emergency calls: *July*
			N1: SIP emergency calls and packet emergency calls in general (S1 requirements needed) *Dec.*
			S2: Stage 2 for emergency calls and packet emergency calls in general *80% stable: Sept.This is critical task – it does not leave too much time for stage 3 work on .*
			S1, N1, N4, T3: Distinction of emergency call types to different emergency services. ~~August~~Dec 2000
			Someone (IETF, N1): Stage 3 for emergency calls and packet emergency calls in general. Dec
		CS based Emergency call enhancements (N1) WIC in NP-000379	**S1, N1, N4, T3:** Distinction of emergency call types to different emergency services in CS domain. ~~August~~September
			S1, N1: Emergency call recalling capability enhancement. *Dec.*
		Roaming support within and between IP Multi-media network and CS Domain networks	**S2, N4:**Stage 2 *80% stable: June* Covered by work item in SP-000150 TR23.821
			N3: Internetwork roaming aspects
			S1: Roaming requirements *July* Covered by work item proposed in S1-000290 TR22.976
	Enable bearer independent Circuit-switched network architecture	**Enable bearer-independent call control**	**S2:** Architecture and Stage 2 description on **23.821** *80% complete in S2#14, i.e. in TSGS #9*

Inter Group Co-ordination	*Feature*	*Building block*	*WG: work task expected completion date*
	• **WIC in SP-000288** • Rapporteur Alexander Milinski, Siemens	• **WIC in N4-000512 (N4)** • Rapporteur Heinz-Peter Keutmann, Ericsson, Heinz-Peter.Keutmann@eed.ericsson.se	**N3:** Standardisation of protocols (control & user plane) over reference points between MGWs *DecMarch*.
			N4: Standardisation of protocols over reference points between MSC server and Gateway MSC server *DecMarch*.
			[additional work tasks possible as architecture evolves] *Dec*.**N4:** • Standardization of detailed stage 2 description, *Dec*
			S3, N4: • Impacts from lawful interception, *March 2001*
			N4: Bearer controlStandardization of protcols over reference points between MSC server and MGW (stage 3 - protocol issues, stage 2) *DecMarch*.
			N3: Standardization of protcols over reference points Bearer control between MSC server and MGW (stage 3 - parameter value issues, stage 3) *DecMarch*.
			N3: Bearer control (control plane, e.g., Q.AAL2) between MGWs *Dec*.
	Bearer Modification without pre-notification (S1) WIC in SP-000216, Rap. Wayne Ashwell, BT	**Service Modification without pre-notification between** Objectives include modification not using BICC (between Speech and Fax, Speech and Modem, and Speech and Multimedia using ISUP) and using BICC. **WIC in NP 000224 (N3), Rap.** Masahiko Yahagi (m_yahagi@mcs.abk.nec.co.jp)	**N1:** in call modify procedure *Dec.*
			N3: interworking function, TAF *Dec.* Preliminary as no official work item exists on the issue
			N4: Out of band Transcoder Control *DecMarch*. Preliminary as no official work item exists on the issue
			T2: AT commands *Dec.* Preliminary as no official work item exists on the issue

Inter Group Co-ordination	Feature	Building block	WG: work task expected completion date
Codecs	**Transcoder-Free Operation (TrFO)** SP-000094	**OoBTC**[4] *July 2001* • **WIC in N4-000531 (N4)** • Rapporteur: Toshiyuki Tamura, NEC, tamurato@elsf.ncos.nec.co.jp	**N1:** Adding new codecs and the signalling mechanism to negotiate the activation of the fcodecs should be studied for . Codec Negotiation between UE and MSC. Signalling for See NP-000085 24.008, 23.009, 23.108 (29.002) Assumption for **R99**: As there is only one Codec, AMR, this does not need to be signalled.
			N4: Codec Negotiation inter MSC, Bearer establishment inter MSC. TS 23.153 **R99** part complete. capabilities moved to annex. See NP-000127 **Open issues:** Handling of Conference Calls; Handling of Multi Party Supplementary Services; Handling of Handover UMTS to GSM; Handling of Sending a tone or Announcement; Protocol between MSCs (i.e. Iu UP Framing versus I.366). Harmonization of TFO and TrFO
			S2 Principles and Terminology, e.g. cascading TrFO/TFO/TrFO
			R2: Bearer establishment between UE and RAN, TFC control by RRC
			R3: Bearer establishment between MSC and RNC as well as RNC and Node B, Notification of the Codec mode to RAN, Iu UP control procedure (rate control, initialization, time alignment)
			S3, N4: • Prevention of user fraud, • Impacts from lawful interception

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[4] The Out of Band Transcoder is deleted from the TSG RAN Work Programme as the solution does not involve the UTRAN (i.e. it is not proposed to delete the Out of Band Transcoder function). TSG RAN will not work on this unless it is found to be necessary, at which time a Work Item will be established to deal with this.

			S4 26.103 Codec list, 3G equivalent of GSM 08.62
		TrFO specification	N1:
			N4 N4: decided to standardise TrFO for R00.
			R3 R3: User & Control Plane procedures related to the Codec Commands to UE
			S3 Prevention of user fraud
			S4 26.103 Codec list, 3G equivalent of GSM 08.62
			WG ? Harmonization of TFO and TrFO may be required

Inter Group Co-ordination	*Feature*	*Building block*	*WG: work task expected completion date*
Service platforms	**VHE** (S1) WIC in SP-000216, Rap. Jumoke Ogunbekun, Fujitsu Europe	**Personal Service Environment (PSE), user profiles and user profile management**	**S2:** PSE architecture (e.g. HSS) and interfaces
			S2, N4: User Profiles definition
		VHE security (S3)	**S1, S2, S3:** User Requirements. Principles and architecture definition for the different VHE toolboxes (e.g. MeXE, SAT, CAMEL and OSA)
			S3, N1, N2, N3, N4: (possibly) changes required from supporting platforms, e.g. gsmSCF, HLR
	Open Service Architecture (S1) WIC in SP-000216, Rap. Jumoke Ogunbekun, Fujitsu Europe	**Integration of OSA within IM domain**	**S1:** Requirements on OSA for multimedia capabilities and features
			S2, N1, N5: Interaction between SIP call control and OSA
			S2, N2, N4, N5: Interaction between HSS and gsmSCF features and OSA
			S2, N5: Interaction between Multi Media network resources and OSA
		OSA security (S3), WIC in SP-000302, Rap. Colin Blanchard, BT, colin.blanchard@bt.com	**S2:** Technical requirements for OSA security, implementing the VHE toolkit security requirements
			S3: • Presentation to S3 of trust and security management framework service capability feature: S3#14, Aug • Presentation to S3 of threats and countermeasure analysis: S3#15, Sep • Decision if implementation is to be standardised and how much re-use can be made of 3G AKA as "prescribed method", network certificates and security associations: S3#16, Nov • Definition of architecture • Complete CRs: S3#16, Nov CRs approved at TSG level: SA#10, Dec
			N5: security related SCF(s) definition
			S3, N2, N4, N5: (possibly) changes required from supporting platforms, e.g. gsmSCF, HLR
	CAMEL phase 4 **SA1 to define WI**	**Existing CAMEL procedures shall be enhanced for the manipulation of media streams, where appropriate, typically for VoIP**	**N2, N4**: unnamed WT

Inter Group Co-ordination	Feature	Building block	WG: work task expected completion date
	New feature to be added for CAMEL phase 4	CSE Initiated call setup including user interaction	N2, N4: unnamed WT
		Flexible approach to provide User Interactions during a call	N2, N4: unnamed WT
		Interactions with Optimal Routing	N2, N4: unnamed WT
		CSE control of follow-on calls	N2, N4: unnamed WT
		CSE control over MT SMS	N2, N4: unnamed WT

Inter Group Co-ordination	*Feature*	*Building block*	*WG: work task expected completion date*
Security	**Protection for user plane data,** (S3) WIC in SP-000298, Rap. Stuart Ward, Orange, stuart.ward@orange.co.uk	**User plane protection in core network (e.g., provided by Ipsec) (S3)** (also BB of core network security) **S3**: to define WI (Jun 00)	**S3:** • Specification of protocol stacks for core network interfaces: CN, Aug • Requirements capture, S3#14, Aug • Security feature specification, S3#15 Sep • Definition of security architecture • CRs approved at TSG level, Mar 01 • Integration of security architecture • Concept presented to CN, RAN, T, GERAN, Feb 01 CRs approved at TSG level, Jun 01
			N4:
		Network based end-to-end security **S3** to defined WI (Jun 00)	• **S2, S3,** Requirements capture, S3#14 Aug • Security feature specification, S3#16, Nov • Feasibility study, S3, Jan 01 • Definition of security architecture • CRs approved at TSG level: SA (Mar 01) • Integration of security architecture • Concept presented to CN, RAN, T, GERAN, Apr 01 • Complete CRs with S3 review, Oct 01 • CRs approved at TSG level, Dec 01 **S2, R2, R3,N1, N4, SMG 2 WPA**

Inter Group Co-ordination	Feature	Building block	WG: work task expected completion date

	Core network security (S3)
	WIC in SP-000299,
	Rap. Robert Lubarsky, T-Mobil,
	Robert.Lubarsky@T-Mobil.de
		Control plane protection in core network (e.g., GTP, CAP, MAP/IP, provided by Ipsec) (S3, N4)	**S3:**
			
			• Specification of protocol stacks for core network interfaces, CN Aug
			• Requirements capture, S3#14, Aug
			• Definition of GTP signalling security architecture
			  • Complete CRs, S3#15 Sep
			• Integration of GTP signalling security architecture
			  • Complete CRs with S3 review, N4#5, Nov
			  • CRs approved at TSG level (Dec 00)
			• Security feature specification, S3#15, Sep
			• Definition of security architecture
			• CRs approved at TSG level, Mar
			• Integration of security architecture
			• Concept presented to CN, RAN, T, GERAN, Feb 01
			• Complete CRs with S3 review
			CRs approved at TSG level Jun 01

			S2, N4:

		User plane protection in core network (e.g., provided by Ipsec) (S3, N4) (also BB of user plane protection)	**S3:**
			• Specification of protocol stacks for core network interfaces, CN Aug
			• Requirements capture, S3#14, Aug
			• Definition of GTP signalling security architecture
			  • Complete CRs, S3#15 Sep
			• Integration of GTP signalling security architecture
			  • Complete CRs with S3 review, N4#5, Nov
			  • CRs approved at TSG level (Dec 00)
			• Security feature specification, S3#15, Sep
			• Definition of security architecture
			• CRs approved at TSG level, Mar
			• Integration of security architecture
			• Concept presented to CN, RAN, T, GERAN, Feb 01
			• Complete CRs with S3 review
			CRs approved at TSG level Jun 01
			
			N4:

Inter Group Co-ordination	Feature	Building block	WG: work task expected completion date
		MAP application layer security, **S3**	**S3:** • Integration of security architecture • Complete CRs, N4 , Jun • CRs approved at TSG level, Jun • Definition of security architecture CRs approved at TSG level Sep
		Key management for core network security (S3), WIC in SP-000301, Rap. Peter Howard, Vodafone Peter.Howard@vf.vodafone.co.uk	**S3:** • Contributions solicited to determine if MAP based key management is to be specified: CN/S3 ad hoc, Jun • Decide whether MAP based solution will be specified: S3#14, Aug • Decide on dates for an IP/IKE based solution: S3#14, Aug • Integration of security architecture for MAP based solution (if S3 decide on this solution) CRs approved at TSG level, Jun 01
			S2, N4;
	Evolution of GSM CS algorithms (e.g. **A5/3 development and deployment)** (S3) WIC in SP-000306, (no rap nor sup. Company!)		**S3, N4, N1, SMG 2 WPA**
			S3: • Requirements capture: S3#14, Aug • Security feature specification: S3#16, Nov • Feasibility study, Jan 01 • Definition of security architecture • CRs approved at TSG level, May 01 • Integration of security architecture • Concept presented to S2 and CN, Feb 01 • Complete CRs with S3 review, Apr 01 • CRs approved at TSG level, May 01

Inter Group Co-ordination	Feature	Building block	WG: work task expected completion date
	Evolution of GSM PS algorithms (e.g. GEA 2 deployment) (S3) WIC in SP-000307, (no rap nor sup. Company!)		**S3** • Decision to createCRs making GEAx support optional also for R97 to preserve commonality between R97 and R98 and to allow for early roll-out of GEA2 in R97 terminals. Companies to check that no backward compatibility issues exist: CN/S3 ad hoc, Jun • Final decision on whether GEAx support is optional also for R97: CN#8, Jun • Definition of security architecture • CRs approved at TSG/SMG level, Jun • Integration of security architecture • Concept presented to S2 and CN, Aug • Complete CRs with S3 review, Sep • CRs approved at TSG level, Sep
			N4: • Impacts to GTP
			N1: • GEA capability indication in MS CM
	GERAN	**GERAN Security** (S3) WIC in SP-000308, rap. Bart Vinck, Siemens AG, Tel : +49-89-722 25644, e-mail : bart.vinck@icn.siemens.de	**S3:** • Requirements capture: S3#14, Aug • Security feature specification: S3#16, Nov • Feasibility study, Jan 01 • Definition of security architecture • CRs approved at TSG level, May 01 • Integration of security architecture • Concept presented to S2 and CN, Feb 01 • Complete CRs with S3 review, Apr 01 • CRs approved at TSG level, May 01
			SMG 2 WP A: • Presentation to S3 of system architecture, Aug
			SAGE: Production of new algorithm, completed Oct 2001
			S2, N1, N4,

Inter Group Co-ordination	Feature	Building block	WG: work task expected completion date
	Visibility and Configurability of security (S3), WIC in SP-000305, Rap. Sébastien Nguyen Ngoc, France Telecom Sebastien.nguyenngoc@francetelecom.fr		**S3:** • Requirements capture, Aug • Definition of security architecture, CRs approved at TSG level, Dec
			T2, T3, N2, N4
	FIGS **S3**:	**FIGS**	**S2, N24, N4,**

			S3:
			Identification of milestones for extending FIGS to PS domain: S3#14 (Aug 00)
			Requirements capture: S3#15 (Sep 00)
			Security feature specification: S3#16 (Nov 00)
			Feasibility study (Jan 01)
			Definition of security architecture
			   - CRs approved at TSG level (Mar 01)
			Integration of security architecture
			   - Concept presented to S2 and CN (Apr 01)
			   - First draft CRs (Jul 01)
			   - Complete CRs with S3 review (Oct 01)
			CRs approved at TSG level (Dec 01)

Inter Group Co-ordination	Feature	Building block	WG: work task expected completion date
Location related issues	**Support of Localized Service Area (SoLSA) (S1)** ~~WIC in SP-000216, Rap. ?, Nokia~~	**Basic concept of SoLSA (broadcast LSA ids, zone tariffing)**	Creation of Work Item for UTRAN-SoLSA (This was supported only by one company in the S1 April meeting)
			S1: Development of SoLSA service descriptions
			S1, RAN: LSA definition
			S1, RAN: LSA selection
			R2: LSA information broadcast
			R3: Iu signalling support for SoLSA
			R3: Possible Iur signalling support for SoLSA
			R3: Possible Iub signalling support for SoLSA
			S2, R2: Adapt GSM stage 2 SoLSA for UTRAN
			CN WGs : Adapt SoLSA core network CRs
			RAN WGs: SoLSA specifications for UTRAN
			T WGs: Adapt SoLSA UE and USIM specifications
			S1: Study the usage of geographical information for SoLSA
		Preferential access (cell access priority for LSA users)	**SA, CN and RAN WGs:** Iu interface and MAP signalling
		Active mode support (favouring LSA cells in active mode)	**SA, CN, RAN and T WGs:** Adapt GSM specifications for UMTS, UTRAN and UE:
	Location Services (S2) WIC in SP-000292, Rap. Jan Kall, Nokia	**Event based and Periodic LCS**	**S1** Evaluate Event based and Periodic LCS to be included in R00, corresponding Stage 1 description, *July*
			S2 and R2 Include Event based and Periodic LCS in Stage 2 specifications, *Sept*
			N4 Impact of R00 architecture e.g. on (MAP) signalling for LCS
			R2 Possible impact on UTRAN of Event based and revised Periodic LCS request, *Sept*
		LCS support in the core network CS domain	**N4:** Impact of R00 architecture e.g. on MAP signalling for LCS
		LCS support in the core network PS domain	**N1:** Layer 3 LCS signalling UE (MS) -SGSN (UMTS PS and GSM-GPRS)
			S1 Evaluate to be included in R00 and describe: **-** External LCS client identity **-** Privacy options when PDP-context and when no PDP-context is established

Inter Group Co-ordination	Feature	Building block	WG: work task expected completion date
PS			**S2 LCS support in the PS Domain, (Stage 2) Sept**
			S2 include adopted new LCS service features in PS CN domain, stage 2, Sept
			N4 : MAP signalling for LCS
		LCS support in the IM CN subsystem	S1 Evaluate LCS service features in the IM subsystem, e.g. related to emergency calls, *July*
			S2 Call related LCS in IM CN subsystem (stage 2) *Sept*
			N4 signalling for LCS
		Exception procedures	S2 Exception procedures in the Core Network, *Sept.*
			CN WGs Exception procedures, corresponding Stage 3 specifications, *Dec.*
			R2 exception procedures in UTRAN *Sept.*

Work Item Description

Bearer Independent Circuit-Switched Core Network

The work item introduces the separation of call control and bearer control in the circuit switched core network.

1   3GPP Work Area

	Radio Access
X	Core Network
	Services

2   Linked work items

Related work items are:
1. *Out-of-Band Transcoder Control*
2. *Circuit Switched Multimedia Swap & Fallback*
3. *Service Modification without Pre-notification*
4. *Lawful Intercept*

3   Justification

This work item follows up the S2 work item "Enable bearer independent circuit-switched network architecture".

4   Objective

The objective of the work item is to evolve the R99 circuit switched domain (CS domain) in a transport network independent manner to allow the use of different transport resources (ATM, IP, STM, …). The main new characteristic of the R00 CS domain compared with the R99 CS domain consists in the flexibility for PLMN internal transport means that allow transport based on IP. Transport and control of the CS domain network are separated to enable service provision by different means of transport resources (ATM, IP, STM, ...) for better transport resource efficiency and convergence with the PS domain transport.
The bearer independent circuit-switched network architecture comprises all core network functionality for provision of bearer- and teleservices in a circuit oriented manner. It includes the functions for the call control, related supplementary services, application services and mobility support.
Maintaining calls while terminals change locations is handover functionality of the CS domain UMTS specific call control.
Note:
The protocols used for access signalling and signalling within the network (e.g. CC in 3G TS 24.008 or MAP in 3G TS 29.002) are not affected by the introduction of new signalling transport bearers in the core network.

5   Service Aspects

None identified.

6   MMI-Aspects

None identified.

7   Charging Aspects

None identified.

8   Security Aspects

Possible impacts from Lawful Intercept

9   Impacts

Affects:	USIM	ME	AN	CN	Others
Yes				X	
No	X	X	X		X
Don't know					

New specifications						
Spec No.	Title	Prime rsp. WG	2ndary rsp. WG(s)	Presented for information at plenary#	Approved at plenary#	Comments
23.xxx	Bearer Independent CS core network; Service description; Stage 2	N4		CN#10	CN#11	Stage 2 describing the information flow on the Nc, Mc, Nb reference points in relation to UMTS specific traffic cases e.g. interworking between access signalling and evolved call control protocols, and between handover and evolved call control protocols.
29.xxx	<stage 3 for the circuit switched bearer independent core network>	N4	N3	CN#10	CN#11	Stage 3 describing the UMTS specific protocol impacts e.g. new packages for H.248.
Affected existing specifications						
Spec No.	CR	Subject			Approved at plenary#	Comments
29.007		General requirements on Interworking between the PLMN and the ISDN or PSTN			CN#10	Add the interworking with other networks using evolved call control protocols.

11   **Work item raporteurs**

Heinz-Peter Keutmann, Ericsson (Heinz-Peter.Keutmann@eed.ericsson.se)

12   **Work item leadership**

N4

13   **Supporting Companies**

Ericsson, NEC, Vodafone, Nortel Networks, Nokia, Motorola, Cisco, Lucent Technologies, Siemens

14   **Classification of the WI (if known)**

	Feature (go to 14a)
	Building Block (go to 14b)
X	Building Block (go to 14b)
	Work Task (go to 14c)

14a   The WI is a Feature: List of building blocks under this feature

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14b   The WI is a Building Block: parent Feature

WI: Enable bearer independent circuit-switched network architecture

14c   The WI is a Work Task: parent Building Block

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