3GPP TSG_CN **Tdoc NP-000322**
Plenary Meeting #8, Düsseldorf, Germany
21st – 23rd June 2000.

Source: **SA5**

Agenda item: **4.2**

3GPP TSG-SA5 (Telecom Management) ***Tdoc S5-000322***

Category: Liaison

From: SA5

To: CN, RAN, T and IGC

Title: Service Management - New R00 work item proposal under SA5's responsibility

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TSG-SA WG5 (Telecom Management) has agreed during its Meeting #12 in Rome, Italy, 5-9 June 2000 a new R00 work item on "Service Management".

Three (3) documents had been approved by SA5, which are herewith submitted to the other TSGs for comment and subsequently to the next TSG SA (SA#8) for approval.

Attachments:

S5-000299	Work Item Proposal on Service Management Feature (TS 32.140)
S5-000300	Proposal for IGC Work plan update to include Service Management Feature (TS 32.140)
S5-000296	New TS Proposal: 32.140 "Service Management Requirements and Framework"

3GPP TSG-SA5 (Telecom Management)
Meeting #12, Rome, Italy, 5 – 9 June 2000

SA5#12(00)0296

3G TS 32.140 V0.1.0 (2000-06)

Technical Specification

3rd Generation Partnership Project;
Technical Specification Group Services and Systems Aspects;
3G Service Management Requirements & Framework
(3G TS 32.140 version 0.1.0 Release 2000)

Keywords
<keyword[, keyword]>

3GPP

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Contents

Foreword

This Technical Specification has been produced by the 3rd Generation Partnership Project (3GPP).

The contents of the present document are subject to continuing work within the TSG and may change following formal TSG approval. Should the TSG modify the contents of the present document, it will be re-released by the TSG with an identifying change of release date and an increase in version number as follows:

Version x.y.z

where:

x the first digit:

1 presented to TSG for information;

2 presented to TSG for approval;

3 or greater indicates TSG approved document under change control.

y the second digit is incremented for all changes of substance, i.e. technical enhancements, corrections, updates, etc.

z the third digit is incremented when editorial only changes have been incorporated in the document.

Introduction

This version is intended simply as a skeleton to solicit feedback and contributions.

Release 2000 represents a substantial move towards supporting complex services accessed through 3G mobile technologies.

This shift substantially increases the Service Management challenge from purely voice network service concerns to include:

- Multimedia
- Data services
- Value Added Services
- Terminal and host applications
- Subscription Management & provisioning

This Service Management Framework work captures the operational requirements, and provides a framework for the logical design of a Service Management Building Block.

1. Scope

The present document specifies:

- General Requirements
- Business Models for Service Management Actors
- Supply Chain solutions for Mobile Service Management
- 'Use cases' for Service Management Actors

2 References

The following documents contain provisions, which through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies.

[<seq>] <doctype> <#>[([up to and including]{yyyy[-mm]|V<a[.b[.c]]>}[onwards])]: "<Title>".

[1] 3G TS 25.034: "Example 1, using sequence field".

[2] 3G TR 21 912 (V3.1.0): "Example 2, using fixed text".

3 Definitions, symbols and abbreviations

Delete from the above heading those words which are not applicable.

Subclause numbering depends on applicability and should be renumbered accordingly.

3.1 Definitions

For the purposes of the present document, the [following] terms and definitions [given in ... and the following] apply.

Definition format

***<defined term>**: <definition>.*

example: text used to clarify abstract rules by applying them literally.

3.2 Symbols

For the purposes of the present document, the following symbols apply:

Symbol format

<symbol> <Explanation>

3.3 Abbreviations

For the purposes of the present document, the following abbreviations apply:

Abbreviation format

<ACRONYM> <Explanation>

4 Service Management Requirements

The perspective taken in this document is that Service Management is provided to support the operational needs of operators and their trading partners.

As the services provided over 3G technologies become more data centric, there is a move towards more complex business relationships and 'value chains'. These business models need to be supported by the automation of the supply chain using mainstream IT and e-commerce technologies wherever possible.

The requirements capture is handled in a number of stages. The first stage is to identify the linear single purpose requirements and collate them into a single list. This list is contained in the Annex A. Ultimately these requirements have to be supported by:

- 'Use cases' that describe more precisely the semantics and behaviour required from the Service Management Building Block
- Verification, Validation and Test procedures that are outside the scope of this document.

The approach used to organise and structure requirements is to consider the mobile environment and the set of 'Actors' that need to operationally interact with it. Service Management Requirements are then structured into those that are related to each 'Actor', and those that are general requirements for all actors or general properties desired of the 3G Services Management environment. This is shown conceptually below:

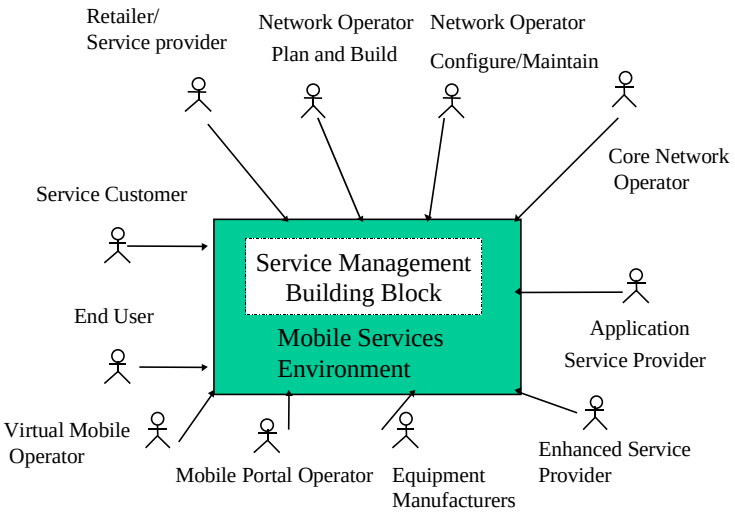


Figure 1 Relationship between Actors, Mobile Services Environment and Service Management Building Block

The Service Management Building Block is considered to be one component of the 3G Mobile Service Environment that also includes other 3G Building Blocks.

The Service Management Building Block:

- Will support and co-ordinate Operational Processes for the operator and their trading partners;
- Use capabilities of other 3G Building Blocks where appropriate.

The realisation of the Service Management Building Block may be as many separate interconnected and inter-operating physical systems. Realisation matters are described in Section X.

5 Business Model

6 Overview

Explains what a business model is and why it is necessary to define one to support the development and specification of a Service Management Building Block.

7 Actors

This section defines the roles that interact in the business model and the Actors that might perform these roles.

In the real world, organisations, systems and individuals perform numerous roles (e.g. a Service Customer could also be the End User, or a single individual/system within a Network Operator's organisation could both provision and maintain service). The intention of this section is to identify single role actors. These can then be combined to meet any organisational needs at a later date.

Customer

- Service Customer
- End User

Retailer/Service Provider

- Service Provision/modification/cessation
- Trouble Management
- Billing

3rd generation Network Operator

- Plan and build
- Service provision
- Operate and maintain
- Call management
- Accounting/Billing collection

Core Network Operator

- Plan and build

- Service provision
- Operate and maintain
- Call management
- Accounting/Billing collection

Application Service Provider

- ?????

Enhanced Service Provider

-

Virtual Mobile Operator

-

Mobile Portal Operator

-

Equipment Manufacturer

- Terminal manufacturers
- Radio equipment manufacturers
- CSN Manufacturers
- PSN manufacturers

8 Examples

Show specific examples of the roles assigned to actors carrying out an example operational process e.g Provision, billing inquiry, customer support inquiry.

9 Supply Chain Solutions

Describes the industry approach to supply chain solutions using e-commerce technologies.

Explains the scope of what need to be specified in this 3G documentation and that which should be adopted from mainstream activities such as Commerce One, Rossettanet, ebXML, …

Defines the 3G specific parts of supply chain solutions.

10 Subscription Management

Defines the processes that need to be performed amongst actor for Subscription management.

11 Use Cases

'Use cases' organised around actors, and structured according to major processes performed by these actors. Template for Use case provided below. Traceablity of requirements in Annex A to 'Use Cases' is required.

Use Case Code	Reference Number.
Use Case Name	Descriptive name that matches with any 'Use Cases' diagrams used.
Summary	Short description of 'Use Case' purpose and content.
Parent	Needed if 'Use Cases' are structure in a hierarchy.
Offspring	Needed if 'Use Cases' are structure in a hierarchy.
Roles/Actors	Lists interacting roles/actors involved in the 'Use Case'.
Pre-conditions	A list of all systems and environmental conditions that must be true before the 'use case' can be triggered.
Begins when	The name of the single event that triggers the start of the 'Use Case'.
Description	The various tasks that make up the 'Use Case' . Note necessarily in sequence. May reference or call subsidiary 'Use Cases'.
Ends when	The event(s) that signal that the 'Use Case' has terminated.
Post-conditions	A list of all systems and environmental conditions that must be true if the use case has terminated without internal error.
Exceptions	A summary list of all exception conditions and faults detected by the 'Use Case' during it operation.
Traceability	An itemised list of all requirements exposed by this 'Use Case'.
Note	Anything that needs to included to aid precision and comprehension.

12 Realisation considerations

Describes some of the consideration in moving from a logical design of a Service Management Building Block to its physical realisation across a number of physical systems.

Mainly by reference to other industry work such as the TMG Generic building Block Requirements GB 909 , New Generation OSS Architecture and other sources, JMX, JOSS, …

Proforma copyright release text block

(e.g. for PICS and PIXIT Proformas)

This text box shall immediately follow after the heading of an element (i.e. clause or annex) containing a proforma or template which is intended to be copied by the user. Such an element shall always start on a new page.

Notwithstanding the provisions of the copyright clause related to the text of the present document, [tbd] grants that users of the present document may freely reproduce the <proformatype> proforma in this {clause|annex} so that it can be used for its intended purposes and may further publish the completed <proformatype>.

Annexes are only to be used where appropriate:

Annex A (Normative): Service Management Building Block Requirements

Annex A 1 General requirements

Annex A.2 Actor 'xxxxx' Requirements

Annex A.3 Actor 'yyyyy' Requirements

Annex B (informative): Draft Management Requirements

From contribution SA5 - 290

The following requirements are numbered to allow for traceability as solutions are developed to meet these requirements. The origin of a requirement is identified in parenthesis.

3rd Generation Mobile Operator

General

1. Manage equipment from different vendors (3GPP, 3G2))
2. Minimise complexity (3GPP)
3. Minimise cost of managing (3GPP)
4. flexibility to allow for rapid deployment of services (3GPP, 3G2)
5. scaleable (3GPP, 3G2)
6. Management systems should be compatible with and capable of managing 2nd Generation equipment (3G2)
7. Reuse existing relevant recommendations (3GPP)
8. Standardise at EM to NM interface (3GPP, 3G2)
9. Support Broker Management and Proxy management models (3G2)
10. Allow interoperability between NO/SPs for exchange of management/charging info (3GPP)

11. Expose info only once (3GPP)

12. Have one naming convention for network resources (3GPP)

13. Support the restoration of an OSS (resynchronisation and atomic transactions (3GPP)

14. Support management of end to end services (3G2)

15. Independent of network architecture (and technology?) (3G2)

Network Planning and build

16. Add remove and modify Hardware

17. Add remove and modify/update Software

Service provisioning

18. Allocate unique ID (e.g. E164 or IP address) to customer.

19. Configure network

20. Configure customer profile(s)

Call Management

21. Collect dynamic and persistent information (TIPHON)

Service Maintenance

22. Provide info related to integrated fault management that are intended to determine root cause (3G2)

23. Send/receive trouble reports

Network Maintenance

24. Provide info related to integrated fault management that are intended to determine root cause (3G2)

25. Provide integrated fault management (3GPP)

26. Simplify maintenance management capabilities (3GPP)

27. Exchange trouble reports with others

28. Testing and Diagnosis

Network Performance

29. to address the assessment of system performance and operation through the use of common measurements etc. (3G2, 3GPP)

30. the performance of OSSs should not impact the performance of the network (3G2)

31. to collect information on the performance of physical systems (e.g. processes, CPU mad memory usage) (TIPHON)

32. to collect information on the performance of applications running (e.g. states, notifications) (TIPHON)

Billing and Accounting

33. collect information from the network to support billing and charging (new)

34. provide and support flexible billing and accounting admin to support charging across UMTS and non-UMTS systems.

35. Credit Control (pre pay)

36. Transact customer credits/transfer funds

Security

37. to support key management, access control management, OA&M of security mechanisms, with particular emphasis on new features such as automatic roaming and packet switched services (3GPP, 3G2)

38. fraud management

Radio System management

39. Manage radio system

Roaming

40. Roaming agreements?

Customer Location

41. Customer Location information

Terminal Management

42. provision,

43. amendment/update/enhancement etc,

44. restriction,

45. cessation,

46. personal data back-up/restoration,

47. security/access control/PIN management,

48. IMEI interrogation,

49. interrogation of terminal type and capabilities,

50. nominated 3rd party service provider access control,

51. credit control (for pre pay),

52. maintenance and fault finding,

53. location determination,

54. service statistics,

55. interrogation of performance parameters (e.g. signal strength),

56. provision of customer information and announcements.

3rd Generation Mobile Customer

Service provisioning

57. Request service

58. Agree SLA

59. Configure service

Maintenance

60. Make trouble reports

61. Receive trouble information

Performance

62. Receive performance info (if in SLA)

Billing and Accounting

63. Receive Bills

64. Pay Bills

65. Pre Pay

66. Query credit

67. Transfer funds (per pay)

Security

68. Change PINs

Roaming

69. Request roaming

Terminal Management

70. Configure (local and download)

71. Enter personal data

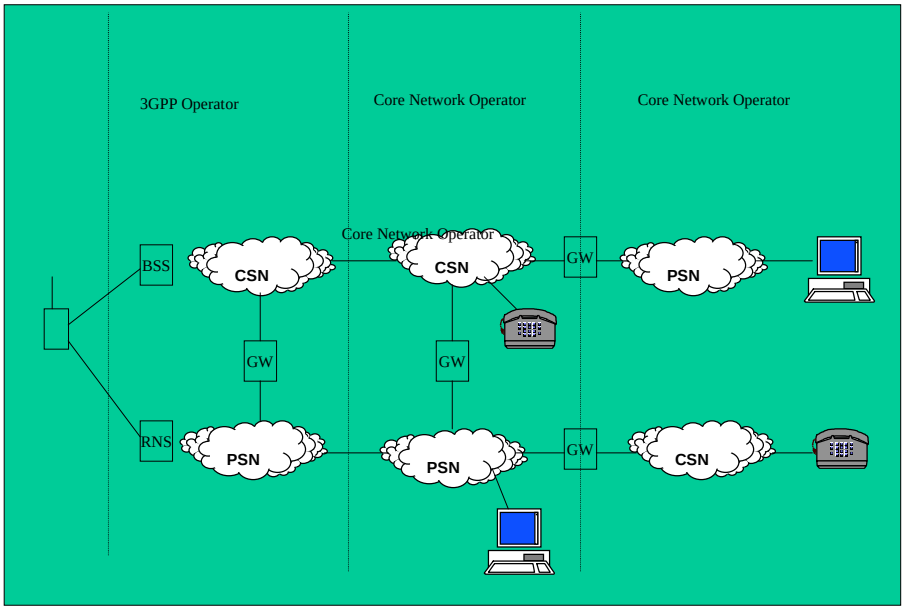
72. Diagnostics and query

Note terminal management should not impact battery life, call latency, call quality etc.

Core Network Operator (TIPHON)

Except for Radio specific Requirements, these should be as for 3rd Generation mobile operators.

Architecture



This figure integrates the 3GPP and TIPHON architecture.

B.1 Heading levels in an annex

Heading levels within an annex are used as in the main document, but for Heading level selection, the "A.", "B.", etc. are ignored. e.g. **B.1.2** is formatted using ***Heading 2*** style.

Bibliography

The Bibliography is optional. If it exists, it shall follow the last annex in the document.

The following material, though not specifically referenced in the body of the present document (or not publicly available), gives supporting information.

Bibliography format

- <Publication>: "<Title>".

OR

<Publication>: "<Title>".

History

Document history		
0.0.0	06/06/2000	Skeleton
0.1.0	09/06/2000	Produced during the Rome, Italy 05-09/6/2000
1.0.0		Version 1.0.0 produced for presentation to SA #xy

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Annex <X> (informative): Change history

It is usual to include an annex (usually the final annex of the document) for specifications under TSG change control which details the change history of the specification using a table as follows:

Change history							
Date	TSG #	TSG Doc.	CR	Rev	Subject/Comment	Old	New

3GPP TSG-SA5 (Telecom Management) Meeting #12
Rome, Italy, 5-9 June 2000

Tdoc S5-000299

Work Item Description

Title Service Management (Feature)

1 3GPP Work Area

X	Radio Access
X	Core Network
X	Services

2 Linked work items

This work item will derive operational management requirements that need to be satisfied by solutions (e.g. MExE, QoS, Security) being developed in other 3GPP groups. A more precise list will be identified by the end of SA5#13 in July based on an exhaustive review of the Y2000 work-plan on contributions on operational requirements.

3 Justification

The move in Release 2000 towards supporting complex services will substantially increase the Service Management challenge from purely voice network concerns to include:

- Multimedia
- Data services
- Value Added Services
- Terminal and host applications
- Subscription Management & provisioning

4 Objective

This work item will capture the operational requirements and identify solutions necessary for this service management challenge.

It willdevelop:

- General Requirements
- Business Models for Service Management Actors
- Supply Chain solutions for Mobile Service Management
- 'Use cases' for Service Management Actors

It will derive all necessary Release 2000 Building Blocks and Work Tasks to support these detailed operational management requirements.

5 Service Aspects

This Feature will develop Service Management solutions to support the Supplementary Services Framework proposed in Release 2000.

6 MMI-Aspects

Yes for end user/consumer Service Management interactions with their Service Provider.

7 Charging Aspects

Yes

8 Security Aspects

Yes

9 Impacts

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

10 Expected Output and Time scale (to be updated at each plenary)

New specifications						
Spec No.	Title	Prime rsp. WG	2ndary rsp. WG(s)	Presented for information at plenary#	Approved at plenary#	Comments
32.120	Service Management Requirements & Framework	SA5	SA2?	SA#8 June00		

Affected existing specifications				
Spec No.	CR	Subject	Approved at plenary#	Comments
		TSG T (specifications to be identified)		
		TSG N (specifications to be identified)		
		TSG R (specifications to be identified)		
32.101		TSG S (other specifications to be identified)		

11 Work item raporteurs

32.120 – Geoff Caryer

12 Work item leadership

SA5

13 Supporting Companies

BT, VoiceStream, Telenor, Telia, Sonera

14 Classification of the WI (if known)

Currently one building block and task has been identified, it is likely that more will be identified when the feature work is started and approved.

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

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

(list of Work Items identified as building blocks)

14b The WI is a Building Block: parent Feature

(one Work Item identified as a feature)

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

(one Work Item identified as a building block)

3GPP TSG-SA5 (Telecom Management) Meeting #12
Rome, Italy, 5-9 June 2000

Tdoc S5-000300

Title: Proposal for IGC work plan update to include Service Management Feature (TS 32.140)

Inter Group Co-ordination	*Feature*	*Building block*	*WG: work task* **expected completion date**
Billing, charging and management	**Service Management Feature**	**Service Management Building Block**	**S5** Service Management Framework, Business Model, Use cases ,initial case study on Subscription Management (Ordering, activation , modification, cessation)

Proposal for the Release 2000 Features, Building Blocks and Work Tasks
Version 1.0

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 on version 0.9 or v.0.10. Most of the 3GPP WGs have reviewed the proposal, as shown in the following table.

Group	**has reviewed v.0.9 or 0.10**	**comments**
SA	No	This version will be reviewed at TSG SA#8.
S1 (services)	**No**	**No time allocated at last meeting**
S2 (architecture)	Yes	Originator of the proposal
S3 (security)	Yes	in tdoc S3-000305
S4 (Codecs)	partly	No meeting held. Comments from the chairman included.
S5 (OAM)	Yes	e-mail reviewed.
CN	Yes	in tdoc S2-000670, encompassing comments from N1 and N4.
N1 (CC, MM)	Yes	in tdoc S2-000670
N2 (CAP)	partly	e-mail discussion. No formal output.

N3 (IW)	Yes	in tdoc N3-000199
N4 (MAP)	Yes	in tdoc S2-000670
N5 (VHE)	partly	e-mail discussion. No formal output.
T	No	This version will be reviewed at TSG T#8.
T1 (testing UE)	No (not needed yet?)	
T2 (capabilities)	partly	No meeting held. Comments from the chairman included.
T3 (USIM)	**No**	
RAN	partly	Comments from F. Courau included according to decisions taken at RAN#7. This version will be reviewed at RAN#8.
R1 (radio phy.)	No	
R2 (RR)	Yes	R2-000836, R2-000938
R3 (Iu, Iur, Iub)	Yes	R3-001224
R4 (RF, BS testing)	No (not needed yet?)	

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 will also provide some useful tools, like filtering the information to present only the work items to be fulfilled by a given (set of) WGs.

Contacts for comments

For sake of sharing the work load, 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	*Ulrich Dropmann*, Siemens	Ulrich.Dropmann@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	*Chris Pudney*, Vodafone-Airtouch	chris.pudney@vf.vodafone.co.uk
9. Billing, charging and management	*Yukio Hiramatsu*, NTT	hiramatu@MAGNET.NETLAB.NTT.CO.JP
10. Testing	*N.N.*, Motorola	by interim teuvo.jarvela@nokia.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

Proposal for the 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)
		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)	**R2; R3**
	Low Chip Rate TDD[4]	**To be further investigated**	**R1; R2; R3; R4**
	RAN improvement[5]	**RRM Support over Iub and Iur**	**R3:** RRM optimisation (5 issues)
		Node B synchronisation for TDD[6]	**R3:** Node B synchronisation for TDD

[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.
[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

		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 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* **N1:** changes to QoS re-negotiation procedure, *August*
		End-to-end/UMTS reservation and (re-)negotiation of QoS parameters (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, *July*
			S2, N3: Define interactions between external QoS negotiation and reservation mechanisms and UMTS QoS negotiation and reservation mechanisms *August*
			N1: Possible new code points in QoS IE from external networks, *Oct* **N1:** inclusion of UMTS QoS Architecture (23.107) new point codes, *July*
			S5, N3, S2, S1: Consider issues related to charging for end-to-end QoS, *Sept.*
			S2, N1, N3, T2: Mapping between UMTS QoS attributes and the attributes used by external QoS mechanisms, *Nov.*
			SMG2, SMG7: GERAN QoS Aspects, *Dec.*?
	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.*
			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	**Provisioning of IP-based multimedia services** **S1 WI** proposed S1-000290 **TR22.976,** WI Rapporteur, Mark Cataldo, Motorola	**Call control and roaming to support IP-based multimedia services in UMTS**	**Definition of service requirements.** *17.-21.7., S1#9* Issues include e.g.: • roaming requirements • Requirements on supplementary services • Interworking requirements **S1 WI** proposed S1-000290 **TR22.976**
			Architecture and Stage 2 *80% complete in TSGS #8 21.-23.6.2000* Approved **S2 WI** in SP-000150. WI Rapporteur Liz Daniel, Lucent **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
			N1,S3: SIP Call Control security *Dec.* [to be reviewed with security area]
			N1: SIP Call Control SS, Gm IF *Dec.*
			N4: SIP Call Control SS and relationship to Mg, Mw and Cx *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**	**S1:** creation of 22.976 on Service Requirements for IP-based emergency calls: *July*
	S1, N1, N4: Distinction of emergency call types to different emergency services
	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.*
Security features to support IP-based multimedia services in UMTS **(**** see Security section ***)** **S3**, for requirements cf. IGC Security S3 to define WI(s)	<intentionally left blank>
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. IGC on Service Platform	<intentionally left blank>
		CAMEL control of VoIP • **N5 to define work item:** for detailed planning cf. IGC on Service Platform	<intentionally left blank>
	Enable bearer independent Circuit-switched network architecture • **S2 WI** on architecture (SP-000149) • Rapporteur Ulrich Dropmann, Siemens	**Enable bearer-independent call control**	**S2:** Architecture and Stage 2 description on **23.821** *80% complete in TSGS #8 21.-23.6.2000*
			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 *Dec.*
			N3, N4: Bearer control (control plane, e.g., Q.AAL2) between MGWs *Dec.*

	Bearer independence and codec control issues for detailed planning cf. IGC Codecs	<intentionally left blank>
Circuit-switched multimedia services	**Circuit-switched multimedia swap and fallback** • **Agreed WI NP-000051** Rapporteur: Juha Räsänen (juha.a.rasanen@nokia.com)	**N1:** call control and signalling aspects *Dec.*
		N3: transport aspects *Dec.*
		N3: inband signalling *Dec.*
		S1, S2: Review whether service/stage 1 or architecture/stage 2 aspects need to be aligned *Dec.*
Facsimile	**Real Time Fax**postponed from R99 to R00, **SP-000169**	**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.*
Text telephony • **SP-000162** agreed WI. Rapporteur Gunnar Hellström, Ericsson Radio Systems AB, email: gunnar.hellstrom@omnitor.se tel: +46 708 204 288	**H.324 based**	[to be defined]
	H.323 based	[to be defined]
	Text telephony (WI to be supplied)	**N3:** transport aspects (V.18) *Dec.*
Bearer Modification without pre-notification Preliminary as no official work item exists on the issue	**Bearer Modification without pre-notification between Speech and modem** Preliminary as no official work item exists on the issue	**N1:** signalling aspects *Dec.* Preliminary as no official work item exists on the issue
		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 without pre-notification between Speech and FAX Preliminary as no official work item exists on the issue	**N1:** signalling aspects *Dec.* Preliminary as no official work item exists on the issue
		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
Optimisation of signalling.	**Turbocharger (N1?)** • **N1** internal WI • postponed from R99, open whether part of R00 (**SP-000169**)	[to be defined] *Dec.*

		Layer 3 Segmentation • **N1, N4, R3 (?)** WI postponed from R99, open whether part of R00 (**SP-000169**)	[to be defined] *Dec.*
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 (see section 7.1) *June*
			S4,WB AMR speech Codec Selection Tests *June to Sept.*
			S4,WB AMR speech Codec Selection *Oct.*
			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.* Wideband Speech Codec ANSI C-Code *Dec.* Wideband Speech Codec Test Sequences *Dec.* Wideband Speech Codec Speech Transcoding Functions *Dec.* Wideband Speech Codec Error Concealment of lost frames *Dec.* Wideband Speech Codec Source Controlled Bit-Rate Operation *Dec.* Wideband Speech Codec Voice Activity Detector *Dec.* Wideband Speech Codec Frame Structure *Dec.* Wideband Speech Codec Performances Characterization *Tbd 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.*
		WB Telephony Requirements	**S1** requirements (CRs) *Dec.*
		QoS for speech and multimedia codec IGC QoS. Common Building Block. See IGC QoS documentation.	
	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.
			N2: 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
			R3

[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.

			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). Nevertheless, the specification of the "TrFO/OoBTc" Shall not be delayed in the case the specification of the "Transcoder at the Edge" Work Item were delayed.
	Tandem Free aspects for 3G and between 2G and 3G systems	**Tandem Free AMR**	**S4 TFO AMR Specification** *June*
		TFO AMR Implementation in UTRAN ?? Inband	**RAN WG** Tasks (CRs) *Dec.*
		TFO AMR Implementation in CN	**CN WG** Tasks (CRs) *Dec.*
	Transmission planning in 3G networks	**03.50 equivalent Transmission Planning Aspects of the Services in UMTS**	**RWGs** Specifications/Reports
Messaging	**Multimedia Messaging**	**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. **R99** **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
	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
	UE capabilities	**Packet Switched capabilities description.**	**T2:** Addition to Terminal Report 21. 904.
	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 .
	UICC API	**Test specification for UICC**	**T3:** UICC interface.
		Java API transfer to 3GPP	**T3:** Java API specification affects T1 specs.
Service platforms	**VHE/OSA**	**Evolutions of VHE concepts**	TBD (N5, N4, S2, T2, N2)
		Support of VHE/OSA by R00 network entities and protocols of the IM subsystem (e.g. CSCF)	**S1:** Requirements on OSA for multimedia call control
			S2, N2, N5: Interaction between multimedia call control and VHE/OSA
		Support of VHE/OSA by other new R00 network entities and protocols (e.g. MExE entities)	TBD
		Personal Service Environment (PSE), user profiles and user profile management	**S2:** PSE architecture and interfaces
			S2?, N5?, N4: User Profiles definition
			N4: SCFs for user profile access/management by OSA applications
		VHE/OSA management aspects	TBD
		Improvements to VHE/OSA security	**S1; S2:** Principles and architecture definition
			N5 : (possibly) security related SCF(s) definition
			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.** **GPRS & SMS charging** **Multimedia SCF(s)** **Conferencing** **Prepaid charging**	**S1; S2:** SCFs requirements
			N2?, N5, N4: SCFs stage 2 specification
			N2?, N5, N4: SCFs stage 3 specification
		New Framework Service Capability Features and evolutions of existing ones (F-SCFs) **e.g.** **Interfaces between framework and service capability servers**	**S1; S2:** SCFs requirements
			N5: SCFs stage 2 specification
			N5: SCFs stage 3 specification
		Harmonisation/co-ordination with non UMTS related initiatives (e.g. SPAN3/SPAN6, Parlay group)	TBD
	CAMEL phase 4 **N2 to define WI** **New feature to be added for CAMEL phase 4**	**MO calls: Mid call procedure**	**N2, N4** (TBD)
		MO/MF calls: Creation of call parties - Call Party Handling	**N2, N4** (TBD)
		MT calls: Mid Call procedure	**N2, N4** (TBD)
		CSE Initiated call setup	**N2, N4** (TBD)

		Procedures for USSD	**N2, N4** (TBD)
		User Interaction scripts	**N2:** TBD
		Enhancements to CSE control of call duration – playing of tones	**N2, N4** (TBD)
		Enhancements to Call Forwarding interactions	**N2, N4** (TBD)
		Interactions with Optimal Routing	**N2, N4** (TBD)
		CAMEL control of VoIP	**N2, N4** (TBD)
	MExE	**3rd MExE classmark**	**T2:** Additional features for MExE R2000
		Support of the Terminal parts of the VHE /User Profile	**T2** : Enhancements to MExE R99
		AT command support	**T2:** Feasibility Study
		Secure download mechanism and capabilities to support SDR concepts	**T2** :Feasibility study with further identification of the ways to support SDR concept.
		Support of MP3/MPEG4 content	**T2:** Only feasibility study at this stage
		Support of SAT/OSA/CAMEL interaction to provide advance services	**T2:** Feasibility Study
Security **S3 should generate WIs**	**protection for user plane data**	**Integrity protection in access network (Rx?, S3?)**	
		Integrity protection in core network (e.g., provided by IPsec) (S3?, N4)	
		Network wide encryption of user plane	**S2, S3, R2, R3, N1, N4, SMG 2 WPA**
	Core network signalling security	**MAP/GTP/CAP**	**S2, S3, N2, N4**
	FIGS		**N2, N4**
	Secure mobile platform for applications		**S3, T2, T3**
	[Study on the evolution of GSM CS algorithms]		**S3, N4, N1, SMG 2 WPA**
	[GEA 2]		**S3, N1, N4**
	Ability of terminal/USIM to reject unencrypted "calls"	**["Mandatory" GPRS encryption]**	**N2, N4** (TBD) Mandatory clearing by the MS of non-ciphered PDP contexts. (still under discussion) **S3, T2, T3**
		CS domain issues	**N1, T2, T3, S3**
	[Issues arising from GERAN and Iu-ps]	**Access network encryption, [integrity protection], key length, algorithm selection/design**	**S3, N1SMG 2 WP A, SAGE**

	Enhanced User Identity Confidentiality		**N1:** • Procedures using encrypted IMSI • Response to paging with non-encrypted IMSI (roaming) **S2, R2, R3, N4**
	OSA/VHE security		**S3, N2**
	Visibility and Configurability		
	Security features to support IP-based multimedia services in UMTS	**Access network security (encyrption, integrity, authentication)**	**S2, S3, R2, R3, N1, N4, SMG2 WPA**
		Lawful intercept	**S3, N1, N4**
		Protection for user plane data	See above [feature/BB]
		Ip security solutions	**S3**
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:** creation of 30.802. Impacts on 32.005, 32.015, 32.105
	Call Trace		**S5:** creation of 32.108
	Security Management		**S5; S3:** Key Administration and Distribution for MAP
	Service Management Feature	**Service Management Building Block**	**S5** Service Management Framework, Business Model, Use cases ,initial case study on Subscription Management (Ordering, activation , modification, ceasation)
	[GSM LCS O&M Project]		**T1.P1:** Project Management

Testing	identified technical *questions* related to testing (no break-down to features, building blocks or work tasks performed yet) • Terminal Acoustic Test Spec • UE Test Specs – FDD • UE Test Specs – TDD • UE Test Specs – Protocols • UE Test Specs – ATS • UE Test Environment • UE Test Interface • UE Test Specs – Proforma • UE Electromagnetic Compatibility • UICC Interface Test • UICC Test • Base Station Testing		
Location related issues	**Support of Localized Service Area (SoLSA)** The situation regarding SoLSA in 3GPP R00 is unclear at the moment, since only one company supported a new Work Item on UTRAN-SoLSA in the S1 April meeting.	**Basic concept of SoLSA (broadcast LSA ids, zone tariffing)** (The list of Work Tasks is from the Work Item description contribution to S1, tdoc. S1-000278)	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	**Service description (Stage 1 development in S1)**	**S1:** Describe new service features *July* predefined areas, location of all UE in area? accuracy classes?
		Overall system aspects of LCS	**S2:** Agree Work Item on LCS system and core network aspects *May*
			S2: Specify LCS Stage 2 for R00 and new service features *Sept*. predefined areas, location of all UE in area? accuracy classes?
			S2: Exception procedures *Sept.* **CN WGs:** corresponding Stage 3
		LCS network management	**S5 (**to be more detailed)
		Security aspects of LCS	**S3** (to be more detailed) *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 (in R00 architecture)	**N1:** Layer 3 LCS signalling UE (MS) -SGSN (UMTS PS and GSM-GPRS)
			N4 : MAP signalling for LCS
		Iu interface support for LCS	**R3:** Iu development *Sept.* - assistance data handling - to be further defined
		LCS in UTRA TDD **Work Item: "Support of Location Services in UTRA TDD"**	**R2:** UTRAN stage 2 *Sept.* - exception procedures - possible impact of new LCS service features
			R2: Radio Resource Management (for LCS TDD)
			R1: Location measurements TDD *Sept.*
			R3: Iur, Iub support for LCS measurements +results TDD
		[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.*
			Possible enhancements in MExE support for LCS?: **S1:** Impacts on 22.057 **T2:** Impacts on 23.057
			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
		Universal Geographic Area Description (GAD)	**S2:** Possible update of 23.032 *Sept.*
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		

[8] To be used carefully!