Technical Specification Group Services and System Aspects
Meeting #7, Madrid, Spain, 15-17 March 2000

TSGS#7(00)0067

Source: **TSG SA1**

Title: **CRs to 22.121**

Document for: **Approval**

Agenda Item: **5.1.3**

Doc-1st-Level	Status-1st-Level	Spec	CR	Rev	Phase	Subject	Cat	Version-Current	Version-New
SP-000067		22.121	005		R99	Clarification of service capabilities	F	3.1.0	3.2.0
SP-000067		22.121	006		R99	Information Transfer service capability feature	C	3.1.0	3.2.0

TSG-SA Working Group 1 meeting #7 TSG S1 (00)0107
Sophia Antipolis, France Agenda Item: 5.14

CHANGE REQUEST No : **005** *Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.*

Technical Specification / Report UMTS 22.121 Version: 3.1.0

Submitted to TSG_SA 7 *list TSG plenary meeting no. here ↑* for approval **X** for information

without presentation ("non-strategic")

with presentation ("strategic") **X**

PT SMG CR cover form is available from: http://docbox.etsi.org/tech-org/smg/Document/smg/tools/CR_form/crf28_1.zip

Proposed change affects: USIM ☐ TE ☐ Network ☒
(at least one should be marked with an X)

Work item: Virtual Home Environment

Source: TSG SA1 **Date:** 15/1/00

Subject: Clarification of Service Capabilities

Category: *(one category And one release Only shall be Marked with an X)*

F	Correction	X	**Release:**	Phase 2	
A	Corresponds to a correction in an earlier release			Release 96	
B	Addition of feature			Release 97	
C	Functional modification of feature			Release 98	
D	Editorial modification			UMTS 99	X

Reason for change:
There has been a long discussion on the section 5.1 concerning the introduction of MExE and SAT servers. The proposed change clarifies this issue by

- introducing a modified figure 3 where the SCFs are presented in a neutral format (excluding a specific mapping to a concrete SCS) and the concrete denomination of the SCS with CSE, HLR, MExE and SAT are replaced in favour of the more general names SC1, .. SCS n. This has the advantage that the figure does no more suggest that the implementation of *any* of the SCS is mandatory. On the other hand this change does not limit the way *how* certain SCFs are implemented by SCS, i.e. which network resource they use to provide a certain SCF to the application.
- considering all concrete network entities and their related interfaces (HLR, SAT, MExE,etc.) only as *examples* in the text by adding "e.g." or by "may be realised".

Clauses affected: 5.1

Other specs Affected:

Other releases of same spec		→ List of CRs:	
Other core specifications	X	→ List of CRs:	23.127
MS test specifications / TBRs		→ List of CRs:	
BSS test specifications		→ List of CRs:	
O&M specifications		→ List of CRs:	

Other comments:

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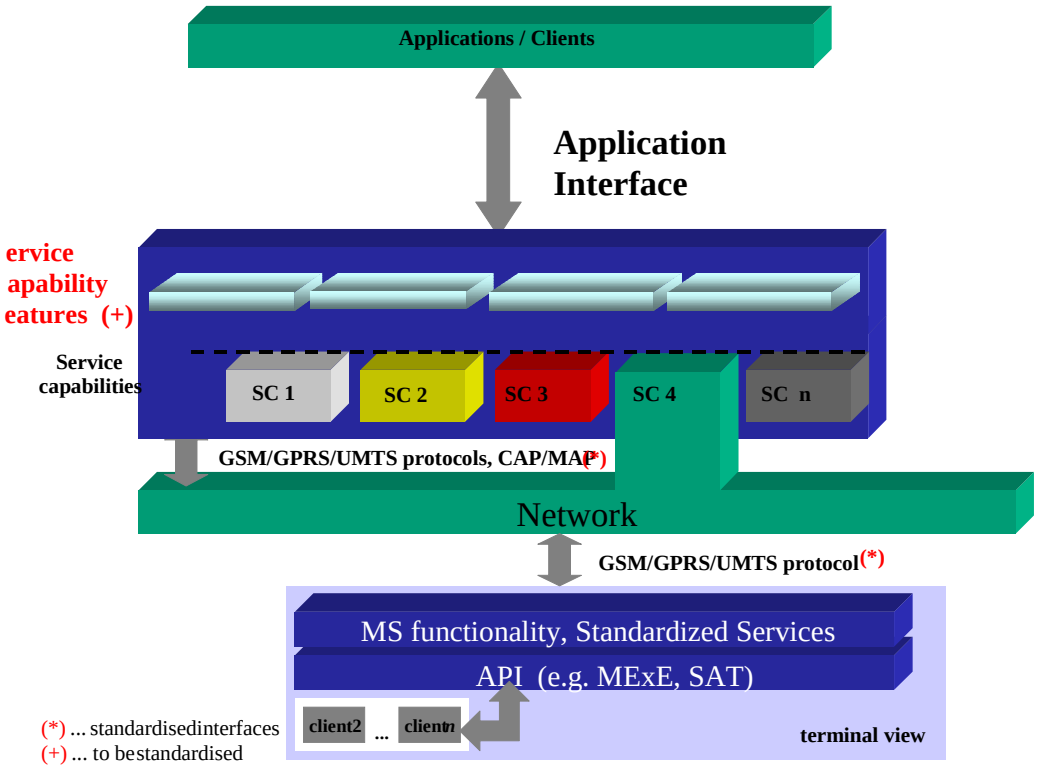
5.1 Ways to realise services

The information contained in this clause is only to aid understanding and is not an extensive list.
Figure 3 illustrates how the concept of VHE makes use of the standardised application interface and how that fits to the service capability features and service capabilities for release 99. Note that the Service Capabilities (SCx) shown below are representatives of the different possible capabilities. It is not to be implied as the agreed architecture as this is a stage 2 issue.
[Note: SCS in figure renamed SC]



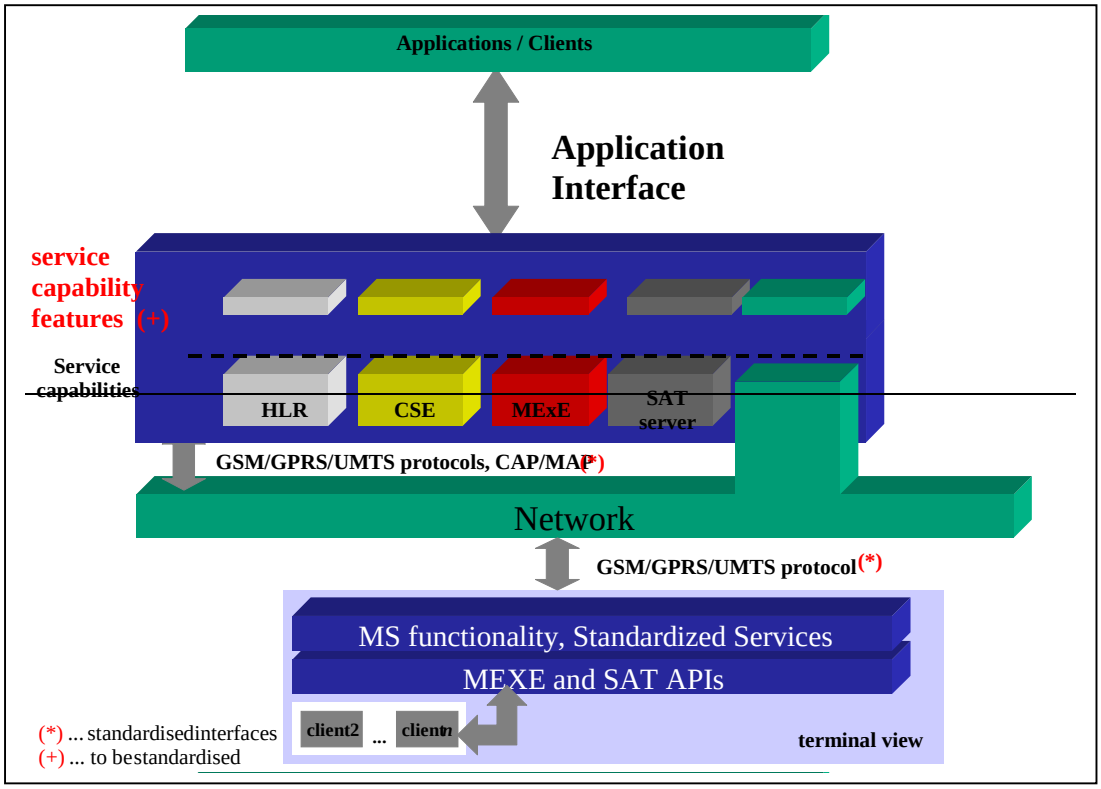


Figure 3 Possible realisation of Framework for Services

STANDARDISED SERVICES (Supplementary Services, Tele-Services, etc.) are implemented on existing GSM/UMTS entities (e.g. HLR , MSC/VLR and terminal) on a vendor specific basis, using standardised interfaces (MAP, etc.) for service communication (e.g. downloading of service data). Availability and maintenance of these Services is also vendor dependent.

OPERATOR SPECIFIC SERVICES (OSS) are not standardised and could be implemented at the GSM/UMTS entities (e.g. HLR) on a vendor specific basis or using GSM ph 2+ mechanisms (CAMEL, SAT, MExE). These tool-kits use standardised interfaces to the underlying network (e.g. CAP, MAP) or use GSM Bearers to transport applications and data e.g. from the MexE service environment or ~~/~~SAT server to the MS/SIM. The implementation of these operator specific services on the different platforms (e.g. CSE, MExE service environment/SAT Server, MSs) is done in a completely vendor specific way and uses only proprietary interfaces.

Other **APPLICATIONS** are like OSS not standardised. These applications will be implemented using standardised interfaces to the Service Capabilities (Bearers, Mechanisms). The functionality offered by the different Service Capabilities are defined by Service Capability Features. These Service Capability Features will be standardised and can be used by the application designers to build their applications.

- Within the terminals Service Capabilities are accessible via ~~the existing~~ APIs, e.g. MExE and SAT APIs, i.e. there will be no service capability features within the terminal.

The terminal can communicate, using GSM/UMTS bearers, with applications in the network via the service capability features which may be optionally realised~~defined~~ for MExE- service environment -and SAT-servers.

TSG-SA Working Group 1 meeting #7TSG S1 (00)156~~049~~
Sophia Antipolis, France Agenda Item: 5.14

CHANGE REQUEST No :	**006**	*Please see embedded help file at the bottom of this page for instructions on how to fill in this form correctly.*			
Technical Specification / Report UMTS	22.121	Version:	3.1.0		
Submitted to *list TSG plenary meeting no. here ↑*	TSG SA#7	for approval	**X**	without presentation ("non-strategic")	
		for information		with presentation ("strategic")	**X**

PT SMG CR cover form is available from: http://docbox.etsi.org/tech-org/smg/Document/smg/tools/CR_form/crf28_1.zip

Proposed change affects: USIM [ ] TE [ ] Network [X]
(at least one should be marked with an X)

Work item: Virtual Home Environment

Source: TSG SA1 **Date:** 17/2/00

Subject: "Information Transfer service capability feature"

Category: *(one category And one release Only shall be Marked with an X)*

F	Correction		**Release:**	Phase 2	
A	Corresponds to a correction in an earlier release			Release 96	
B	Addition of feature			Release 97	
C	Functional modification of feature	**X**		Release 98	
D	Editorial modification			UMTS 99	**X**

Reason for change: There have been long discussions around the issue "Message Transfer SCF" and "Data download". Especially, it has been considered as problematic that the to be changed sections imply the possibility to download data *to* the application server. This contradicts the view of the contributors that the application server establishes only a controlling relationship but not a bearer channel to the Service Capability Servers and the underlying network (via the SCS). The proposed changes try to clarify this point by

- removing the term "message transfer" and replacing it by "information transfer".
- introduction of the appropriate functions
- deleting the section data download completely since it is already covered by the "information transfer"

The "Session Control Service Capability " feature has been enhanced to be able to request data from the user. (For example, the user might enter some code number)

Clauses affected: 10.2.1, 10.2.7 & 10.2.8

Other specs Affected:

Other releases of same spec		→ List of CRs:	
Other core specifications	**X**	→ List of CRs:	23.127
MS test specifications / TBRs		→ List of CRs:	
BSS test specifications		→ List of CRs:	
O&M specifications		→ List of CRs:	

Other comments:

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10.2.1 Session Control service capability features

This section details the Session Control related service capability features. Session Control service capability features shall offer the functionality to establish, maintain, modify and release bearers to/from other parties or entities.
Herein, the term “session” can mean anything from a simple voice call to a complex multimedia “call” (including exchange of non delay-sensitive data). To define the necessary service capability features it is proposed to use a generic model (including the "session party handling").
For example, the following Session Control service capability features shall be provided (the list is not exhaustive):

- initiate and create session (e.g. used to set-up a Telephony session “out of the blue”)
- allow the session to continue with modified information (e.g. changed destination number)
- release the session (i.e. removing all parties from the session)
- add bearer to the session
- remove bearer from the session
- resume bearer to the session (i.e. move party from “on-hold” into Telephony Session)
- suspend bearer from the session (i.e. move party from Telephony Session to “on hold”)
- request session information (i.e. information like session duration, session end time)
- supervise session (e.g. monitor for session duration or data volume, tariff switching moments and changes in QoS)
- presentation of, or restriction of, information associated with a party involved in a session (e.g. calling line ID, calling name)
- collect information from user (i.e the application shall be able to ~~collect a information~~request data from the user. For example, the user might enter ~~a PIN~~ some code number)

For each session it shall be possible to specify:

- the desired media type (e.g. video, voice, non-real time data etc.)
- the events on which monitoring is required ([3])

Note: the mapping to service capabilities is for further study. (It shall be investigated to which extend the requirements above fit to CAMEL, MEXE and other service capabilities.)

10.2.7 ~~Message~~ Information Transfer service capability features~~s~~

The Information Transfer service capability feature shall enable an application to indicate to a user respectively an application in the UE or USIM about the presence of existing information for her. Physically, this indication may be sent by the underlying network e.g. as a SMS or USSD message to the terminal. The Information Transfer service capability feature provides the means to inform the underlying network that an indication shall be sent to the user .
NOTE: For UMTS release 99 mechanisms like USSD or SMS may be employed to transfer the indication to the users terminal. Appropriate mechanisms in future releases are FFS.

The following service capability feature shall be supported:

- **Send information notification**
  The Send information notification service capability feature provides the means to inform the underlying network that an indication shall be sent to a user respectively an application in the UE or USIM about the presence of existing information for her.
  This indication shall contain sufficient information for the receiving entity to react in an appropriate manner, e.g. an announcement ID, URL, a string, etc. In addition the application or execution environment in the terminal (e.g. MExE SAT), that is to display this information, needs to be referenced

~~The Message Information Transfer service capability features shall enable an application to inform put a message in the user's mailbox and to send message notifications to the an end user about the presence of existing information for her. A message can e.g. be of type video, audio, e-mail, fax, SMS etc.; a message can also contain an attachment (e.g. a video file attached to an e-mail). Physically, this information is then sent by the underlying network . Information for the end user may be available e.g. as an announcement or any data to be requested by the end user. The indication from the application may be received by the user as e.g. a SMS or USSD message. The Information Transfer service capability feature provides the means to inform the underlying network that an indication shall be sent to the user containing sufficient reference which form of information is available and where to be found, e.g. announcement ID, URL, a string, etc.~~
~~Furthermore, the Information Transfer service capability features shall provide the means to initiate the collection of information from the user, e.g. certain digits a string, etc.~~

~~The following service capability features shall be supported:~~

~~• **Send message to mailbox**~~

~~The application shall be able to put a message in the user's mailbox. The application can e.g. leave a message for a user indicating a missed call. The type of the message (video, audio, e-mail) needs to be specified. Messages may contain attachments.~~

~~• **Send message to user**~~

~~The application shall be able to send a message to the user directly (i.e. the message is not stored in the mailbox). Examples are a fax message and an announcement like "your call is being diverted".~~

~~• **Get message from mailbox**~~

~~The application shall be able to fetch a message from the mailbox (when requested by the user to do so).~~

~~• **Send message information notification**~~

~~The application shall be able to send Send ainformation notification service capability feature provides the means to inform the underlying network that an indication shall be sent to the user containing sufficient reference which form of information is available and where to be found, e.g. when it has put a message in the mailbox or when it has received a notification from the mailbox that a new message has arrived for the user. announcement ID, URL a string, etc.~~

- **Request message receipt notification**
  The application can request to receive a notification every time a message is received in the mailbox for the user. This allows the application to take the appropriate action, e.g. informing the user.

• **Collect message/data from user**

The application shall be able to collect a message/data from the user. For example, the user might enter a PIN code.

10.2.8 Data Download service capability features

To allow the support of home environment / serving network specific services the following service capability features shall be supported;

• capability to download applications, data to the terminal;

• capability to download applications, data to the USIM;